

CHAPTER 4.0



**ENVIRONMENTAL EFFECTS FOUND NOT TO BE
SIGNIFICANT**

CHAPTER 4 - ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

4.1 Effects Found Not Significant as Part of the EIR Process

4.1.1 Agriculture Resources

4.1.1.1 *Discussion of Existing Conditions Relating to Agricultural Resources*

Background and Setting

Due to its ideal climate and fertile soil, Twin Oaks Valley, in which the Merriam project site is located, has consistently been ranked among the leading agricultural income-producing areas in San Diego County. A history of Twin Oaks shows that agriculture was the predominant feature of the community throughout the years. Major Merriam, the first non-Native American settler in the Twin Oaks region, kept daily records referencing weather and crops but focused his attention on stands of bees, a vineyard, and a winery after vaqueros destroyed his crops. Other incoming settlers utilized various forms of agriculture for sustenance. These agricultural pursuits included avocado, citrus, and other fruit tree groves; Christmas and palm trees; vegetable and fruit-growing fields; numerous flower and houseplant greenhouses; horse breeding, training, and boarding facilities; chicken ranches; dairies; aviaries; apiaries; mushroom; and other farming activities. Twin Oaks has led San Diego County in plant research facilities with advances in water conservation and genetic breeding. The country's premier specialty mushroom producer with an advanced growing system has a facility in Twin Oaks. In the Bonsall Community area, unique microclimates offer greater humidity and more uniform temperature than further inland.

Soils within the project site consist of Acid igneous rockland (AcG), Cieneba rocky coarse sandy loam (CmE2), Cieneba very rocky coarse sandy loam (CmrG), Cieneba-Fallbrook rocky sandy loams 9%–30% slopes (CnE2), Cieneba-Fallbrook rocky sandy loams 30%–65% slopes (CnG2), Escondido very fine sandy loam (EsC), Fallbrook sandy loam 9%–15% slopes (FaD2), Fallbrook sandy loam 15%–30% slopes (FaE2), Friant rocky fine sandy loam (FxG), Las Posas fine sandy loam 9%–15% slopes (LpD2), Las Posas fine sandy loam 15%–30% slopes (LpE2), Las Posas stony fine sandy loam 9%–30% slopes (LrE), Las Posas sandy fine loam 30%–65% slopes (LrG), Placentia sandy loam 2%–9% slopes (PeC), Placentia sandy loam 5%–9% slopes (PeC2), Placentia sandy loam 2%–9% (PeD2), Ramona sandy loam 5%–9% slopes (RaC2), Ramona sandy loam 9%–15% slopes (RaD2), Visalia sandy loam 2%–5% slopes (VaB), Vista rocky coarse sandy loam (VvE), and Wyman loam (WmC). Of the 21 soils located on the proposed project site, 7 of these soils, AcG, CmrG, CmE2, CnE2, FxG, LrE, and LrG, are not rated by the San Diego Area Soil Survey as having a crop suitability status, likely due to their rocky nature and low agricultural potential. The remaining 14 soils, CnG2, EsC, FaD2, FaE2, LpD2, LpE2, PeC, PeC2, PeD2, RaC2, RaD2, VaB, VvE, and WmC, contain a status of crop suitability. LpE2

has a fair suitability for citrus such as oranges and lemons; CnG2 is rated fair for avocados; WmC is rated fair for citrus (orange and lemons), truck crops, and tomatoes; FaD2 is rated fair for avocados, citrus, tomatoes, flowers, and small areas used for housing developments; FaE2 is rated fair for avocados and citrus; VaB is rated fair for avocados, citrus, tomatoes, flowers, walnuts, pasture, and nursery stock; VvE is rated fair for range, avocados, and citrus; PeC, PeC2, PeD2 are rated fair for tomatoes, flowers, and dry farmed crops; and EsC, LpD2, RaC2, and RaD2 have a fair suitability for citrus, tomatoes, and flowers. LpE2, CnG2, and WmC consist of a small portion of the project site mainly located along the eastern and western portions of the site. (U.S. Department of Agriculture 1973)

Agriculture on the Merriam Mountains Site

Unlike much of the surrounding area, due to rugged topography, rock outcroppings, and steeply sloping terrain, the Merriam Mountains site is not a favorable environment for agricultural activities. The geological materials on site are generally massive with no distinct structure. Cretaceous age, medium- to coarse-grained quartz-rich granite rock is the primary bedrock unit located on the Merriam property. Along the western margin of the site, more erodible Jurassic-age Metavolcanic rock is also present. These units are in turn overlain by surficial units consisting of colluvium, alluvium, slope wash, and minor undocumented fill soils. In a 1978 aerial photograph, orchards are shown on the south side of Twin Oaks Crest Drive, west of the site, and on Deer Springs Road. Additional orchards are apparent south of Twin Oaks Crest Drive and west of the site in a 1989 photograph. Currently, the minimal agricultural operations within the Merriam property consist of approximately 2.4 ac. of scattered orchards on the western and northern portions of the site. In addition, there is a commercial greenhouse operation in the southernmost portion of the site with a greenhouse of 280 ft by 150 ft on a site of approximately 5.3 ac. at 628 Deer Springs Road. The greenhouse operation has been used and is currently used to grow cucumbers. Since 1969, regular, commercially available pesticides certified for residential use have been used for the greenhouse operations. Further investigations regarding the potential impacts resulting from pesticide use are discussed in Section 3.3, Hazards and Hazardous Materials, of this EIR.

The majority of the Merriam site is designated as “Other Land” by the San Diego County Important Farmland 2002 Map (see Figure 4.1-1) (California Department of Conservation 2002). This designation includes land that does not meet the criteria of any other category. Common examples include low-density rural developments, wetlands, dense brush and timberlands, gravel pits, and small water bodies. Within the project site, approximately 48.8 ac. of land has been mapped by the State of California as one of the Farmland categories. These consist of Farmland of Statewide Importance (0.1 ac.), Unique Farmland (19.6 ac.), and Farmland of Local Importance (29 ac.). In addition, approximately 488.4 ac. of the project site is zoned as A70,

Limited Agricultural use. Of these totals, approximately 13.7 ac. of the county's agriculturally zoned land overlaps with the State's Unique Farmland designation and approximately 17.9 ac. overlap with the State's Local Importance Farmland designation (see Figure 4.1-1 and Table 4.1-2). Statewide Importance Farmland is classified as land with a good combination of physical and chemical characteristics for agricultural production, having only minor shortcomings, such as less ability to store soil moisture. Farmland of Statewide Importance must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. Land designated as Farmland of Local Importance meets all the requirements of Prime and Statewide importance but has never been used for production of irrigated crops. Unique Farmland typically supports the specific high-value crops.

Both the 2.4 ac. of scattered orchards on the western and northern portions of the site and the commercial greenhouse operation consisting of approximately 5.3 ac. are mapped by the state's Farmland Mapping and Monitoring Program (FMMP) as Unique Farmland.

San Diego Local Agency Formation Commission (LAFCO) – Prime Farmland

As defined in Government Code Section 56064, LAFCO is required to consider how spheres of influence or changes of local government organization could affect open space and prime agricultural lands. LAFCO has been further directed to guide development away from prime agricultural lands unless the action would not promote the planned, orderly and efficient development of an area and to encourage development of existing vacant or non-prime agricultural lands within a jurisdiction before approving any proposal that would allow development of open space lands outside of an agency's boundary. Per Government Code Section 56064 defines "Prime agricultural land" as an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications: (a) Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible, (b) Land that qualifies for rating 80 through 100 Story Index Rating, (c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003, (d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars (\$400) per acre and (e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars (\$400) per acre for three of the previous five calendar years." There are no Williamson Act contracts on the project site. The site is within

the Vallecitos Water District (VWD) and the Rainbow Municipal Water District (RMWD) boundaries. Two reservoirs with 2.6 million gallons (MG) of storage exist on the northern portion of the site. In addition, numerous water mains can be found throughout the area.

Agricultural Uses in the Surrounding Vicinity

Current agricultural uses in the project vicinity include Specialty Plants Inc., located outside the southern portion of the site on Gist Road. Specialty Plants Inc. has grown commercial houseplants for approximately 26 years. The scattered orchards located in the northern and western portions of the site extend off site onto adjacent properties. Other agricultural uses in the project vicinity include scattered large-lot estate developments containing avocado groves, fruit trees, horse breeding, and other small-scale farming activities with rural estate development.

4.1.1.2 Identification and Discussion of Guidelines for the Determination of Significance

The project would have a significant impact on agricultural resources if it:

- 1) Exceeds the quantified significance thresholds for conversion of agricultural lands based on the California Land Evaluation and Site Assessment (LESA) model
- 2) Conflict(s) with existing zoning for agricultural use or a Williamson Act contract
- 3) Would result in the conversion of surrounding agricultural operations due to changes in the existing environment
- 4) Results in the loss of otherwise economically viable farmland.

Guideline Sources

The identified significance thresholds are based on criteria provided in Appendix G of the State California Environmental Quality Act (CEQA) Guidelines, the California LESA model, and state and county standards. These thresholds are intended to ensure conformance with existing regulatory standards, as well as to provide both adequate evaluation of potential impacts to agricultural resources and protection of such resources where appropriate.

4.1.1.3 Analysis of Project Effects and Determination as to Significance

Guideline 1: Exceedance of the California LESA Threshold

A LESA analysis was prepared for the proposed project and is incorporated as Appendix W to the Merriam Mountains Specific Plan Draft EIR, dated August 2007. The LESA model evaluates the project site in regard to soil type, water resources availability, surrounding agricultural land, and surrounding protected resource lands (such as open space easements and Williamson Act

contracts). The California agricultural LESA model is composed of six different factors; two land evaluation factors are based upon measures of soil resource quality and four site assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100-point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. The final LESA score for the project site is 22.5 points. According to the California agricultural LESA scoring thresholds (as identified in Table 4.1-1) a LESA score of 0 to 39 points is not considered significant. Therefore, impacts from the conversion of agricultural lands, based on the California LESA model, would be less than significant.

Guideline 2: Conflicts with Existing Zoning or Williamson Act Contract

Within the Merriam Specific Plan (SP) area, approximately 488.1 ac. of land in the southern portion of the site is zoned by the County of San Diego as A-70 Limited Agricultural Use Regulations (see Figures 1.1-26 and 4.1-1). However, only 5.3 ac. (approximately) of this land is currently used for commercial greenhouse operations located in the southern portion of the site adjacent to Deer Springs Road. No other existing agricultural resources are known to occur within the remaining 482.8 ac. of land zoned as A-70.

The A-70 use regulation is intended to create and preserve areas intended primarily for agricultural crop production. Permitted uses within the A-70 use regulation include family residential, essential services, fire protection services, horticulture, tree crops, row and field crops, and limited and wholesale limited winery for packing and processing.

The project proposes to rezone the majority of the site to S-88 Specific Planning Area with a small portion to multifamily (RM-20) and commercial uses (C-36). The existing agriculturally zoned land is located within portions of the proposed S-88 and RM-22 zoned areas. These areas include single-family residential, multifamily residential, and open space/recreational uses. As described above, these types of uses are permitted within the existing A-70 zone; therefore, the project would be consistent with both the existing and proposed zoning for the project site and impacts related to zoning conflicts would be less than significant.

No Williamson Act contract lands are located within the Merriam SP area (refer to Figure 4.1-1). Therefore, impacts in regard to conflicts from Williamson Act contracts would not result.

Deer Springs Road – Off-Site Improvements: Currently, agricultural operations within and adjacent to the Deer Springs Road right-of-way consist of greenhouse operations, scattered large-

lot estate developments containing avocado groves, fruit trees, horse breeding, and other small-scale farming activities with rural estate development. There are no Williamson Act contracts located within and/or immediately adjacent to the proposed Deer Springs Road alignment (see Figure 4.1-1). A portion of the proposed alignment passes through land designated as an Agricultural Preserve between the Sarver Lane curve and Twin Oaks Valley Road. Per County of San Diego's Zoning Ordinance (Sections 5100 through 5110), road widening is not regulated within an Agricultural Preserve. Therefore, the proposed roadway widening does not conflict with Agricultural Zoning or a Williamson Act Contract.

Guideline 3: Agricultural Conversion due to Changes in the Existing Environment

Adverse impacts to off-site agricultural uses are not expected to occur as a result of the proposed development primarily due to the project design. Off-site agricultural uses in the immediate area mainly consist of small-scale rural residential uses such as avocado groves, fruit trees, or horse breeding. Uses to the north and west of the project site are not expected to be adversely affected by the project due to open space buffers that are provided along the boundaries of the project site in the form of biological and other open space. Furthermore, residential units already exist in proximity to the orchards north and west of the site. The houseplant operation on Gist Road appears to be a greenhouse operation; however, it is not expected that adverse impacts to or from the greenhouse operation would occur due to open space buffers proposed between off-site agricultural uses and proposed residences on site, as discussed in the SP (see Appendix C of this EIR).

The project proposes a road extension (Meadow Park Lane) south of the project site connecting to Deer Springs Road. Just north of Deer Springs Road, variable residential development is proposed. The road extension and the variable residential development proposed immediately north of Deer Springs Road would introduce an intensity of land use not existing on the adjacent surrounding lands. Agricultural use is extensive throughout the Twin Oaks Valley, with intensive agricultural uses surrounding the project site primarily located southwest of the proposed road extension. However, the proposed road extension and residential uses in the southernmost portion of the project site are not expected to cause the conversion of off-site agricultural uses because there are no immediately adjacent intensive agricultural uses that could be adversely affected by these proposed uses. The Golden Door Spa and Resort is located immediately south of Deer Springs Road, residential uses and church property located immediately to the west, residential structures to the northeast, and vacant lands located east of the proposed road extension and residential development (see Figure 3.5-2).

Temporary air quality impacts during the construction phase of the project could cause dust on crops and hinder processing. While the air quality analysis identifies a significant and unmitigable impact for construction phase PM-10 emissions, this impact is based on an

exceedance of standards relative to human health risk. Construction best management practices (BMPs) would be put in place to control fugitive dust (see Section 2.1.6, Air Quality, of this EIR). Furthermore, dust from construction emissions would be a temporary condition that would not affect the long-term viability of surrounding agricultural operations. Thus, with implementation of BMPs to control fugitive dust, these air quality impacts to surrounding agricultural resources would be less than significant. Therefore, project impacts to adjacent agricultural land uses would be less than significant.

Deer Springs Road – Off-Site Improvements: Road widening is considered to be a project that typically would not substantially impair the viability of an agricultural site. Deer Springs Road improvements from the existing two-lane facility to a four lane Major Road would directly impact about Prime Farmland and areas of Local Importance. However, the configuration of the roadway alignment would not impair the viability of the adjacent agricultural uses. Therefore, impacts would be considered less than significant.

In addition, Deer Springs Road does provide access to secondary roadways that serve existing agricultural operations; however, existing access from these roadways, such as Meadow Park Lane, is limited due to the roadway currently operating at LOS F. Therefore, the proposed roadway improvements would not affect existing agricultural uses beyond effects that may be occurring under existing conditions. The increase in traffic is not expected to hinder the movement of farm equipment or generate dust that could impair the existing agricultural productivity of agricultural land under production.

Guideline 4: Loss of Economically Viable Farmland

The project site consists of both County of San Diego zoned agricultural lands totaling 488.1 ac. and State of California designated Farmlands totaling 48.9 ac.; of which 34.7 ac. consist of overlapping designations. The majority of the site is not used for agriculture and areas designed by the state do not meet the respective farmland definitions, primarily based on the lack of irrigation and history of crop production. Only 7.7 ac. of the site in the area of the scattered orchards and commercial greenhouse operation meet the definition of the Statewide/Unique Farmland category. The project would result in the loss of approximately 179.9 ac. of these state and county resources due to proposed development; approximately 52.4 ac. from the designation of biological open space and approximately 270 ac. from other open space designations (Table 4.1-2). In addition, approximately 0.165 ac. would be impacted by off-site improvements.

Current on-site agricultural resources consist of approximately 5.3 ac. of greenhouse operations in the southern portion of the site and approximately 2.4 ac. of scattered orchards in the north and west that extend on site from encroaching agricultural operations. No other existing agricultural resources are known to be located within the project boundary. Citrus and avocado

crops are the typical type of existing agricultural resources within and surrounding the project site. These types of crops require intensive irrigation. Water costs, area access considerations, and land use compatibility issues have constrained the suitable farmland on the Merriam site from being used for economically productive agriculture and potential development in this area that would preclude future use for agriculture. Therefore, impacts to economically viable farmland would be less than significant.

Indirect impacts to agricultural operations could potentially occur if the project proposes a non-agricultural use within one-quarter mile of an active agricultural operation. The one-quarter mile radius is identified to provide a general screening radius for potential indirect impacts and is based on the State of Queensland Planning Guidelines (1997), which identifies 0.19 mile as an adequate separation for most nuisance issues such as dust, noise and pesticide use. Depending on the types of conflicts identified in addition to local conditions, the distance where conflicts could occur may be more or less than 0.19 mile. Therefore one-quarter mile is considered a conservative screening criterion to evaluate potential indirect impacts.

Current agricultural uses in the project vicinity include Specialty Plants, Inc., located outside of the southern portion of the site and scattered orchards are located in the northern and western portions of the site (see Figure 3.5-2). Other agricultural uses in the project vicinity include scattered large-lot estate developments containing avocado groves, fruit trees, horse breeding and other small-scale farming activities with rural estate development, which are located within one-quarter mile from the boundaries of the project site.

The proposed project would not indirectly impact existing agricultural operations located within a one-quarter mile radius because the proposed land uses include adequate setbacks from the project boundaries, which provides a buffer from existing agricultural operations. As seen on Figure 1.1-4 the project site includes other open space, which consists mostly of fuel modification zones that buffer the proposed residential uses and adjacent land uses. The proposed project also includes a 1,192-acre Biological Open Space area that provides separation between the development footprint and land uses located to the north of the project site. It also should be noted that due to topography in the area the proposed land uses will be separated by mountainous terrain from adjacent land uses. Adequate setbacks and topographical features on the project site limit the potential for land uses conflicts with existing agriculture in the more low lying valley where agricultural uses are concentrated.

Another potential indirect effect on agriculture associated with the project is generated by increased traffic on area roadways in proximity to existing agriculture, including improvements along Deer Springs Road (refer to Section 2.2 for description of all roadway improvements proposed by the project). Existing land uses adjacent to the proposed improvements include a variety of agricultural uses, including avocado groves and nursery uses. Deer Springs Road

provides access to secondary roadways that serve existing agricultural operations; however, existing access from these roadways, such as Deer Springs Place (future Meadow Park Lane), is limited due to the roadway currently operating at LOS F. The proposed project would include improvements that would provide enhanced access through the installation of a traffic signal at Meadow Park Lane/Deer Springs Road. Therefore, the addition of the proposed project-generated trips and roadway improvements to these roadways, would not affect existing agricultural uses beyond effects that may be occurring under existing conditions. The increase in traffic is not expected to hinder the movement of farm equipment or generate dust that could impair the existing agricultural productivity of agricultural land under production.

As mentioned above under Guideline 2, air quality impacts from PM₁₀ emission could cause dust on surrounding crops and hinder processing, which could result in a decrease in yield and value of the surrounding agricultural resources. However, with implementation of proposed BMPs to control fugitive dust, impacts to the economic viability to surrounding agricultural resources from project-related air quality impacts would be less than significant.

Refer to Guideline 3 in Section 4.1.2.3 for a discussion on agricultural water supply.

San Diego Local Agency Formation Commission (LAFCO) – Prime Farmland

Based on the definition of Prime Agricultural Lands described above in Subchapter 4.1.1.1 per LAFCO, the project site does not contain any lands that meet the criteria for prime agricultural lands based on the following: (a) The site does not qualify as Class I or Class II in the USDA Natural Resources Conservation Service land use capability classification. (b) The project site does not contain any lands that meet the soil quality criteria for Prime Agricultural Lands (LCC I /II or Storie Index 80 to 100). (c) The project site does not support livestock or meet the criteria for the ability to support livestock per the USDA, (d and e) the project site contains 5.3 acres of greenhouse operations and 2.4 acres of orchards associated with adjacent agricultural operations. These lands would meet the Prime Agricultural Lands definition (d and e) despite not being located on quality soils. As discussed above under *Guideline 4*, due to water costs, area access considerations, and land use compatibility issues have constrained the suitable farmland on the project site from being used for economically productive agriculture and potential development in this area that would preclude future use for agriculture. Therefore, impacts to economically viable farmland would be less than significant.

Deer Springs Road – Off-Site Improvements: As seen under *Guideline 3*, road widening is not considered to be a project that typically would substantially impair the viability of an agricultural site. Deer Springs Road improvements from the existing two-lane facility to a four lane Major Road would directly impact Prime Farmland and lands of Local Importance. However, the

configuration of the roadway alignment would not impair the viability of the adjacent agricultural uses. Therefore, impacts would be considered less than significant.

4.1.1.4 Cumulative Impact Analysis

The project site is located within Twin Oaks Valley, which has been ranked among the leading agricultural income-producing areas in San Diego County. However, the Merriam Mountains site consists of rugged topography, rock outcroppings, and steeply sloping terrain and is therefore not an ideal environment for agricultural activities. Orchards have historically been present along the south side of Twin Oaks Crest Drive, west of the site, and on Deer Springs Road. Currently, the amount of agricultural resources located within the proposed project site consists of approximately 2.4 ac. of scattered orchards on the western and northern portions of the site and continues off site onto adjacent properties. In addition, there are some commercial greenhouse operations in the southern-most portion of the site that consists of approximately 5.3 ac. along Deer Spring Road. Other agricultural uses in the project vicinity include avocado groves, fruit trees, horse breeding, and other small-scale farming activities.

A geographic boundary was identified to define the cumulative study area for agricultural resources. The boundary was delineated based on consideration of several factors, including the presence of active agricultural activity or designations (e.g., Williamson Act Contracts and Agricultural Preserves); agricultural resource potential (e.g., the presence of Important Farmland Designations); physical barriers, such as steep slopes or rocky terrain; and urban development, such as major roadway corridors or dense urban land uses. Based on these elements, the cumulative study area for agricultural resources includes existing non-urban, non-rocky terrain areas generally expanding from Gopher Canyon Road south to the City of San Marcos boundary, west to the City of Vista, and east to Hidden Meadows and the City of Escondido. The boundary was not extended into the cities of San Marcos, Vista, or Escondido because of the general shift to more urban land uses within these cities and the lack of Important Farmlands identified by the California Department of Conservation FMMP beyond city boundaries.

Within the cumulative study area, 39 cumulative projects were identified. Based on a review of projects files, farmland designations, and aerial photos, potential agricultural resource impacts associated with the identified cumulative projects are limited to Merriam West Ranch (project number 16), Mountain Gate (project number 22), and Meadows 35 (project number 40).

Merriam West Ranch would impact 18.6 ac. of agricultural land, and Meadows 35 would impact 3.45 ac. of agricultural land. Mitigation measures for Merriam West Ranch included incorporation of open space easements for protection of agricultural lands and appropriate sanitation and fungus preventative measures to protect avocado groves from the introduction of disease (as identified in Appendix A to the Merriam Mountains Specific Plan Draft EIR, dated

August 2007). Mountain Gate would entail the loss of approximately 2,490 avocado trees for construction of roadways and building pads. This was not considered a significant impact since the project would be increasing the total acreage of avocados planted on site from 245 to 298 ac.

An additional 63 cumulative projects were identified during public review of the DEIR. A screening process was used to determine whether any of the 63 cumulative projects identified since release of the DEIR were located within the cumulative study area for agricultural resources as defined above. This screening process determined none of the additional 63 cumulative projects were located within the agricultural cumulative study area.

Implementation of the proposed project is not expected to result in any significant cumulative agricultural impacts with respect to the identified project list, based on the following considerations: measures incorporated into the Merriam project to avoid and minimize effects on off-site properties; the limited amount of agricultural lands of the surrounding area being impacted, as mentioned above; and conversion of farmland and orchards from implementation of the proposed project, which was determined to be less than significant pursuant to the LESA criteria described above. Therefore, the proposed project would not represent a significant cumulative impact on agricultural resources.

4.1.1.5 Growth-Inducing Impacts

Potential growth stemming from the proposed project could result from surrounding landowners wanting to build out their land to the maximum extent feasible once other construction takes place within their community. As discussed in the Growth Inducement Technical Report, provided as Appendix S to the Merriam Mountains Specific Plan Draft EIR, dated August 2007, growth is analyzed through the maximum development allowable under the existing General Plan designations. Landowners may want to develop additional structures or subdivide their land; however, they would have to be consistent with the land-use designation. Since most of the surrounding area has a 4 ac. minimum parcel size, development according to the existing land-use designation would not result in significant impacts to agriculture, based on the viability of small farms in San Diego County. The loss of agricultural resources from the potential additional units on agriculturally designated lands would not result in a significant loss of agricultural resources. Therefore, impacts to agricultural resources from growth inducement would be less than significant.

Summary of Impacts

No significant impacts to agricultural resources have been identified.

4.1.2 Utilities and Public Services

This section was prepared based on communications with applicable public service providers and a review of available studies and other documents. The project's impact on sewer service was assessed through the *Master Plan of Sewer for the Merriam Mountains Project* (July 2006), *Wastewater Treatment Alternatives for the Merriam Mountains Project* (July 2006), and both discussions with the VWD and the VWD's 2002 *Water, Wastewater, and Water Reclamation Master Plan Update* prepared in August 2002.

Water service availability was assessed through discussions with personnel from VWD and several studies prepared for the proposed project. These studies include the *Water Supply Assessment and Verification Report*, prepared in June 2006; the *Master Plan of Water for the Merriam Mountains Project*, prepared in July 2006; and the 2002 *Water, Wastewater, and Water Reclamation Master Plan Update*, prepared in August 2002.

Potential impacts on police, fire, and emergency services were assessed through discussions with the Deer Springs Fire Protection District (DSFPD), the San Marcos Fire Protection District (SMFPD), and the San Diego County Sheriff Department. In addition, Fire Protection Plans prepared for the project site (Appendix K to the Merriam Mountains Specific Plan Draft EIR, dated August 2007) were utilized to assess potential impacts to fire services. Potential impacts on park and recreation facilities were assessed through a review of recreation plans and policies contained in the County of San Diego General Plan, Recreation Element (1972). The proposed project's potential impact on school facilities was assessed through a review of school district provider's student generation ratios and development fees. In addition, project availability forms were provided in Appendix U to the Merriam Mountains Specific Plan Draft EIR, dated August 2007.

An analysis of impacts to utilities and public services was also included as part of the *Merriam Mountains Specific Plan/General Plan Amendment Report* (Bossler Group 2009). This report is included as Appendix C of this EIR and the results of the utilities and public services analysis are summarized below.

4.1.2.1 Discussion of Existing Conditions Relating to Utilities and Public Services

Fire Protection Services

Fire Protection Services for Merriam will be provided by the DSFPD and the SMFPD, both organized under the provisions of the Fire Protection District Act of 1987, as identified in the California Health and Safety Code. The DSFPD's boundaries encompass the majority of the development while the SMFPD will serve a small 16 ac. area to the north of Deer Springs Road

at the proposed intersection with Meadow Park Lane. In addition, under the provisions of the California Public Resources Code, all of the property within Merriam is also classified as a State Responsibility Area (SRA), which places all of the wildland fire protection responsibilities with the California Department of Forestry and Fire Protection (CDF). As a result of the aforementioned organizational structure, the two fire protection districts will provide fire protection services to all of the improved parcels and roadways, in addition to the delivery of emergency medical services based on their respective agreements with the County of San Diego's Emergency Medical Services Agency. With the SRA land designation and the responsibilities of CDF, all of the state's fire protection resources, such as fire engines, bulldozers, aircraft, and hand crews are available for wildland fire suppression at no additional cost to both of the fire districts. Although some of the CDF's resources may be committed to other fires throughout the state from time to time, there are 18 CDF fire stations and an air attack base in San Diego County, providing 19 engine companies plus the aircraft firefighting units. In addition, CDF operates four conservation camps (hand crews) and four bulldozer units within San Diego County. CDF's presence in San Diego County is substantial, which in turn significantly reduces the demands on the two fire districts in terms of providing staffing and equipment specifically for wildland fire protection. In addition, both of the fire districts have automatic and mutual aid agreements with the other fire protection agencies within San Diego County to augment their individual resources during emergency conditions. Furthermore, both fire districts, as well as other surrounding local agencies, respond simultaneously with CDF on wildland fires as part of a coordinated local area response system. As part of this coordinated local area response, there are two local agency helicopters available for fire suppression purposes in addition to the CDF air attack units stationed in Ramona.

a. Fire Protection Facilities and Equipment Review

The DSFPD has two existing fire stations positioned to serve Merriam. Station 11 is located near the intersection of Interstate 15 (I-15) and Circle R Drive and is positioned to serve the 10 "Estate Lots" located in the northeastern portion of the development. DSFPD Station 12 is located near the intersection of I-15 and Deer Springs Road and is positioned to serve the entire balance of Merriam, including the initial response to the 16 ac. located within the SMFPD. In addition, the DSFPD has recently completed the construction of Station 13 located at 10308 Meadow Glen Way East. .

Under contract with CDF, 17 full-time, year-round fire suppression personnel are assigned to the DSFPD to provide fire protection and emergency medical services to a population of approximately 11,200 persons. In addition, a Reserve Firefighter Program ensures a minimum daily staffing level of three personnel on each engine at both Station 11 and Station 12. As part of the staffing contract with CDF, a fire chief and fire marshal are also staffed. The DSFPD

Board of Directors is committed to the same staffing level for the Hidden Meadows station and has established a goal of providing a paramedic on each engine as part of the three-person staffing. Under a separate contract, the Miller Station has been incorporated into the DSFPD response system providing service to the northern part of the district on a year-round basis; therefore, the CDF Miller Station is within the DSFPD's boundaries. Throughout the non-fire season, the Miller Station includes a minimum staff of three fire personnel on duty 24 hours a day. During the fire season the station may be staffed with additional personnel. The Miller Station operates as a DSFPD facility in terms of dispatches to emergencies even though it is run by CDF.

The DSFPD has a modern fleet of front-line equipment suitable for response to the types of emergencies consistent with their district's scope of fire suppression responsibilities, including equipment designed to combat wildland fires.

The SMFPD will serve the 16 ac. area of Merriam in their jurisdiction, in support of the initial response by DSFPD's Station 12, which is the closest station to the project site, located less than 1 mi. south. The SMFPD would respond from a fire station located near the intersection of Mission Road and Twin Oaks Valley Road. The SMFPD also operates three other fire stations that are available to provide backup support should it be required. The SMFPD provides a minimum staffing level of three personnel on each engine and their truck company includes the assignment of a paramedic. Additional staffing is dedicated to the ambulance units operated by the district. All of the SMDPD's fire stations are staffed continuously around the clock.

A review of the fire apparatus and equipment indicates that the SMFPD has a modern fleet of front-line equipment suitable for response to the types of emergencies consistent with their scope of fire suppression responsibilities, including engines designed for combating wildland fires.

Police Protection Services

The San Diego County Sheriff's Department provides police protection for the project area and the California Highway Patrol provides traffic enforcement and investigation of any traffic collisions. The San Marcos Substation of the San Diego County Sheriff's Department would service the proposed project and is located in downtown San Marcos at 182 Santa Place, approximately 4 mi. south of the project site. The coverage area for this substation includes the cities of San Marcos, Vista, Encinitas, Rancho Bernardo (City of San Diego), and Poway, plus the unincorporated areas of Fallbrook, Valley Center, Ramona, and areas between. The San Marcos Substation provides a full range of services that include general patrol, traffic enforcement, criminal investigation, and various management support services. Other specialized services available through the San Marcos Substation include Aerial Support to Regional Enforcement Agencies (ASTREA) landing pad; search and rescue reserves; specialized

investigations (i.e., homicide, bomb/arson, narcotics, child/elder abuse, financial crimes, domestic violence); modern crime lab facilities; and a tactical response team (“SWAT” unit). Ninety-two sworn officers operate out of the San Marcos Substation, and of these, 13 are supervisors. Field officers assigned to the County of San Diego’s unincorporated areas total approximately 13 personnel, divided into two 12.5-hour shifts per day.

Response time is the most meaningful indicator of the adequacy of the level of service and includes the time it takes a unit to get to the scene of a crime from the moment a call for service is received. Response time to the project area varies depending on the following factors: priority of the call, nature of the call for service, the time of day and the congestion or any obstruction/ongoing construction of the intervening roadways, distance patrol cars are from the location of the call, as well as many other factors. Therefore, response times vary in relation to the number of calls and priority of the calls pending in the County of San Diego area (e.g., human safety takes precedence over property crimes). For the urban unincorporated area, the current minimally acceptable response time is 8 minutes or less for priority calls (i.e., calls involving life-threatening situations or felonies in progress) and 16 minutes for non-priority calls (San Diego, County of 1991). Quick response to calls is critical because it increases the chances of saving lives or apprehending criminals on or near the scene of the crime.

According to a letter report from the San Diego County Sheriff’s Department San Marcos Substation dated June 15, 2007, 2006 average response times (“received to arrival”) for calls for service were as follows: Priority One (officer needs help, foot or vehicular pursuit), 19.7 minutes; Priority Two (injured people, robbery in progress, bomb threats, carjacking, rape, stolen vehicles), 22.5 minutes; Priority Three (assault, prowlers, disturbances, tampering with vehicles and burglary alarms), 30.4 minutes; and Priority Four (security checks, animal noise disturbances, traffic stops, harassing phone calls, illegal dumping, abandoned vehicles), 65.7 minutes. Therefore, the existing response times are below acceptable response-time levels. It should also be noted that in 2006, sheriff deputies responded to 23,528 calls in the City of San Marcos and wrote 1,977 reports of crime (San Diego County Sheriff’s Department 2007).

Schools

Approximately 381 ac. of the project is located within the Bonsall Union Elementary School District (K–8) and the Fallbrook Union High School District (9–12). Approximately 935 ac. are in the San Marcos Unified School District (K–12) and the remaining 1,011 ac. are in the Escondido Union School District (K–8) and the Escondido Union High School District (9–12). The Bonsall Union Elementary School District currently educates approximately 1,750 students in 5 schools and is currently constructing a school near Camp Pendleton. Fallbrook Union High School District has one comprehensive high school with an approximate student population of

3,000. This district also owns a 50 ac. site for a possible future high school on Gird Road, approximately 5 mi. from Merriam.

The San Marcos Unified School District educates approximately 14,000 students in 14 schools. The Escondido Union School District currently educates roughly 20,000 students in 20 schools. Reidy Creek is a new elementary school located approximately 5.5 mi. from the project site and Rincon Junior High is located approximately 7.1 mi. away. The Escondido Union High School District serves approximately 7,400 students in 5 schools, with the closest high school being Escondido High School, approximately 10.1 mi. away.

The closest elementary school is Twin Oaks Elementary, which is 1.2 mi. away. The closest middle school is San Marcos Middle School, which is 6.5 mi. away and the closest high school is San Marcos High School, which is 9.3 mi. away (refer to Figure 4.1-2).

Parks

The County of San Diego's Parks and Recreation Department provides programs and activities that relate to the recreational ideals of the community. Parks and Recreation provides maintenance, acquisition, and development of recreation facilities and includes local and regional parks, fishing lakes, community centers, special-use facilities, ecological preserves, and open spaces. For a detailed discussion of existing conditions for parks and recreation, see Section 4.1.3.1.

Potable Water

Local Water Supply

Except for the Estate Residential Planning Area, the project water would be supplied by the VWD. The 10 residential units located within the Estate Residential Planning Area would be serviced by the RMWD. Figure 4.1-3 shows the service boundaries for both the RMWD and VWD.

Vallecitos Water District. The VWD is located in the northwestern portion of San Diego County, situated approximately 10 mi. from the Pacific Ocean. VWD currently serves a 45 sq mi. boundary in northern San Diego County, including San Marcos, parts of Escondido, Vista, and Carlsbad, and the surrounding unincorporated areas. The majority of water connections are residential uses. A total of 17,187 ac. ft of potable water was distributed and sold to more than 81,000 customers within the district in 2004–2005. According to VWD's adopted 2005 *Urban Water Management Plan* (UMWP), 52% of that amount was distributed for residential use, 12% for agricultural use, 17% for landscape and irrigation, 9% for commercial use, 1% for industrial use, 3% for institutional use, and 6% for other uses.

The VWD currently does not use groundwater as a source of water supply and therefore buys all of its water from the San Diego County Water Authority (SDCWA), which is a wholesale agency operating in San Diego County. VWD is a member agency, which entitles VWD to buy water for its needs from the SDCWA on a wholesale basis. In addition to preparing its own UWMP, VWD participates in coordinated planning activities with other member agencies, including preparation of current and future need projections for transmittal to SDCWA.

Rainbow Municipal Water District. RMWD serves the unincorporated communities of Rainbow, Bonsall, and a portion of Fallbrook, covering approximately 49,800 ac. The service area primarily consists of agricultural uses; however, growth in residential demand is expected. RMWD is currently a single-source water retailer that depends on imported water purchased from the SDCWA. The RMWD is a member agency of SDCWA, which entitles RMWD to purchase water for its needs directly from SDCWA on a wholesale basis. As well as preparing its own UWMP, RMWD submits its current and future need projections to SDCWA as part of the regional planning process. RMWD receives SDCWA water through nine aqueduct connections. RMWD currently does not use groundwater as a source for water supply.

San Diego County Water Authority. SDCWA was established by special legislation in 1943. SDCWA actually began imported water deliveries to San Diego County through the Southern California Metropolitan Water District's (Metropolitan's) Colorado River Aqueduct in 1947. SDCWA now supplies 75% to 95% of the water needs of San Diego County through five major pipelines. The imported water, now a combination of Colorado River and California State Water Project water, is sold wholesale to 24 member agencies. The member agencies are autonomous and their city councils or boards of directors set their own local policies and water pricing structures. Each member agency may appoint at least one representative (based on assessed valuation) to the board of directors of the SDCWA.

The SDCWA is the second-largest consumer of the 26 member agencies belonging to Metropolitan and currently purchases approximately 30% of the total Metropolitan water supply, which in turn accounts for 100% of the imported water distributed by SDCWA. Approximately 30% of the San Diego region's water supply comes from the State Water Project. The water is delivered into SDCWA pipelines from Metropolitan facilities located just south of the San Diego–Riverside County line. SDCWA is currently working to expand its supply of local water, so that it can reduce its dependence on Metropolitan.

Regional Water Supply

Metropolitan Water District of Southern California. Metropolitan was created in 1928 following the passage of the Metropolitan Water District Act by the California Legislature to provide supplemental water for cities and communities on the south coastal plain of California. Since its

formation, Metropolitan has grown to include 26 member agencies (including the SDCWA) and currently covers an area that includes portions or all of Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. As a water wholesaler providing water from both the Colorado River and Northern California, Metropolitan supplies nearly 2 million ac. ft of water to a population of nearly 17 million individuals within its service area.

Water Service Regulatory Environment

Urban Water Management Planning Act. The Urban Water Management Planning Act (UWMP Act) was established by Assembly Bill 797 (AB 797) on September 21, 1983. This law recognized that water is a limited resource and declared that efficient water use and conservation would be actively pursued throughout the state. The law requires water suppliers in California providing water for municipal purposes either directly or indirectly to more than 3,000 customers, or supplying more than 3,000 ac. ft of water annually, to prepare and adopt a specific plan every 5 years that defines their current and future water use, sources of supply and its reliability, and existing conservation measures (UWMP Act 1983). These UWMPs must be filed with the California Department of Water Resources (DWR) every 5 years. UWMPs are required to include information relating to the quality of existing water sources available to an urban water supplier over given time periods and the manner in which water quality affects water management strategies and supply.

A UWMP provides useful information on water demand, supply, recycled water, water quality, reliability planning, demand management measures, BMPs, and water shortage contingency planning. AB 797 requires preparation of a UWMP that accomplishes water supply planning over a 20-year period in 5-year increments; identifies and quantifies adequate water supplies, including recycled water, for existing and future demands in normal, single-dry, and multiple dry years; and implements conservation techniques and efficient use of urban water supplies (UWMP Act 1983).

Water Code Section 10656 restricts state funding for agencies that fail to submit their UWMP to DWR. In addition, Water Code Section 10910 describes the water supply assessment that must be undertaken for projects referred to in Public Resources Code (PRC) Section 21151.9, including an analysis of groundwater supplies. Water Code Section 10631 directs that UWMPs contain further information on future water supply projects and programs and groundwater supplies.

Senate Bill 610 and Senate Bill 221. Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land-use decisions made by cities and counties. SB 610 and SB 221 are companion measures that seek to promote more

collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to the city and county decision makers prior to approval of certain large development projects. Both statutes also require this detailed information be included in the administrative record that serves as the evidentiary basis for approval. Both measures recognize local control and decision making regarding the availability of water for projects and the approval of projects.

Water Code Sections 10910-10915 require lead agencies to identify the public water system that may supply water for a proposed development project and to request from said public water system a water supply assessment and verification (WSA&V) for the project. The purpose of the WSA&V is to demonstrate that the public water system has sufficient water supplies to meet the water demands associated with the proposed project, in addition to meeting the existing and planned future water demands projected for the agency service area over the next 20 years.

Government Code Section 65589.7. Government Code Section 65589.7 provides priority water and sewer services to proposed developments that include housing units affordable to lower income households. A public agency that provides water services may not deny or condition approval of an application for services to, or reduce the amount of services applied for, a proposed development that includes affordable housing units unless it finds that the denial, condition or reduction is necessary due to the existence of an insufficient water supply or a water shortage emergency.

Urban Water Management Plans

Metropolitan Water District of Southern California Urban Water Management Plan (2005) (Metropolitan). In 2005, Metropolitan completed a UWMP in compliance with Water Code Sections 10610 through 10656 of AB 797. The UWMP includes a detailed evaluation of the supplies necessary to meet demands over a 20-year period in single and multiple year drought and average-year conditions; documentation of the stages of actions Metropolitan would undertake to address up to 50% reduction in its water supplies; description of the actions to be undertaken in the event of a catastrophic interruption in water supplies; and evaluation of reasonable and practical efficient water uses, recycling, and conservation activities.

In the UWMP, Metropolitan anticipates large cutbacks in State Water Project (SWP) water during single and multiple dry year scenarios and makes up the reduced supply from their enhanced storage capacity, added since the last drought in the 1990s. For instance, in the single dry year scenario, Metropolitan assumes that the SWP water will be cut back by over 50% as compared to the average year scenario. This reduction in water supply is made up from Metropolitan's in-basin storage such that all anticipated demands can be met. Similarly, during a multiple dry year scenario the Metropolitan UWMP estimates that SWP water will be cut back

by 45% to 50% each year in comparison to the average year. Again, this reduced supply is made up primarily from in-basin storage.

Metropolitan's 2005 UWMP incorporates an Integrated Resources Plan (IRP) that identifies a mix of resources (imported and local) to provide 100% reliability for full-service demands through the attainment of regional targets for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. As updated in 2004, the IRP includes a planning supply buffer that mitigates the risks associated with implementation of local and imported supply programs (IRP 2004).

As a result of investments in supply and storage described in its 2005 UWMP, Metropolitan expects its water management plan to result in 100% reliability for non-discounted, non-interruptible demands through at least the year 2025. Metropolitan's 2005 UWMP also concludes that Metropolitan can maintain reliable supplies to its member agencies, including SDCWA, under the conditions that have existed in past droughts, throughout the period of 2010–2030.

Metropolitan is currently in a Water Supply Alert – Condition 2, which calls for member agencies to adopt extraordinary conservation measures, consistent with Metropolitan's Water Surplus and Drought Management (WSDM) Plan. These measures include adoption of drought ordinances and other measures to mitigate use of storage reserves. Extraordinary conservation would reduce demands throughout Metropolitan's service area, helping to preserve the region's dry-year storage reserves and avoid or reduce the magnitude of supply allocations if dry conditions persist.

San Diego County Urban Water Management Plan (2005). The mission of the SDCWA is to provide a safe and reliable supply of water to its member agencies serving the San Diego region. On November 17, 2005, the SDCWA adopted its 2005 UWMP, updating the 2000 UWMP. The adopted 2005 UWMP projected water demands for the San Diego region, compared water supplies with such demands through 2020, and identified existing and projected supplies to meet those demands in average, single-dry, and multiple dry years.

In 2008, SDCWA adopted a Model Drought Response Ordinance establishing three levels of drought restrictions. SDCWA is currently at Level 1 - Drought Watch, which applies when the SDCWA determines there is a reasonable probability of supply shortages and that a consumer demand reduction of up to 10% is required to ensure that sufficient supplies will be available to meet anticipated demands. Under Level 1, the member agency is expected to take action to implement identified conservation practices, while continuing to authorize new potable water hookups.

Historically, SDCWA purchased all of its water from Metropolitan for distribution to its member agencies. However, consistent with state law, SDCWA began aggressive steps to diversify the region's water sources and reduce dependence on Metropolitan in the early 1990s, resulting in preparation of its 2000 UWMP. The 2000 UWMP discussed actions to prepare for and handle a potential interruption of water supplies, and to firm up supplies from Metropolitan (SDCWA 2000).

Since adopting the 2000 UWMP, SDCWA and its member agencies have continued efforts to diversify their water supplies. In 2004, SDCWA completed a *Regional Water Facilities Master Plan* defining the regional facilities needed to meet water demands within its service area through 2030 (SDCWA 2004). As a result, SDWCA more than doubled its capital improvement plan (CIP), from more than \$1.3 billion to more than \$3.19 billion for projects ranging from seawater desalination to new pipelines and pump stations, a water treatment facility, improvements to the existing water delivery system, the All-American and Coachella Canal Lining Projects, and projects to increase storage capacity throughout San Diego County. In addition, the SDCWA's 2005 UWMP reports that the San Diego region has conserved an average 40,500 ac. ft per year over the last 5 years.

Sections 4 and 5 of SDCWA's 2005 UWMP provide specific documentation on the existing and projected supply sources being implemented by the SDCWA, as well as its member agencies and Metropolitan. In Section 8, SDCWA evaluates water supply reliability in average, single-dry, and multiple dry years. During preparation of the 2005 UWMP, SDCWA coordinated with its member agencies and Metropolitan on future demands and supplies for the region. For instance, SDCWA used SANDAG's 2020 land use and population projections to ensure consistency in water supply planning and implementation.

Based on SDCWA's water supply reliability assessment, SDCWA concludes that if the SDCWA and member agency water supplies are developed as planned, no water shortages are anticipated within SDCWA's service area under average, single-dry, or multiple dry years through the year 2030. The SDCWA's 2005 UWMP also discloses that SDCWA is at risk for water shortages should supplies identified by Metropolitan not be developed as planned. To alleviate this risk, the SDCWA is pursuing development of additional storage programs, additional seawater desalination, conservation programs, and groundwater sources. According to SDCWA, a combination of storage and new supplies would provide a reliable solution to risks associated with dry periods.

Rainbow Municipal Water District Urban Water Management Plan (2005). The Draft 2005 UWMP includes the numbers and types of customers served and the volume of water supplied within the service area. The plan addresses methods to ensure reliable and adequate water service to meet the needs of the various categories of customers during normal, single-dry, and multiple

dry years, and concludes that reliable water supplies will be available to serve current and projected customers.

Vallecitos Water District Urban Water Management Plan (2005). In accordance with the UWMP Act, the VWD Board of Directors adopted a UWMP in 2005 that was subsequently submitted to the DWR. As required by law, the VWD's UWMP includes projected water supplies needed to meet future demands through the year 2030. The report concludes that adequate water supply would be available to meet the projected water needs of the service area based on the policies, projects, and programs discussed in the 2005 UWMP.

Vallecitos Water District Master Plan and Environmental Impact Report (2002). As a complement to its 2005 UWMP, the VWD has also updated its *Water, Wastewater, and Water Reclamation Master Plan (2002)*. The Master Plan identified the need for new facilities and modifications that were not addressed in the 1991 Master Plan or the 1997 Master Plan Update. Proposed water improvements include pipelines, pump stations, pressure reducing stations, and storage reservoirs. Proposed wastewater improvements include gravity sewers, force mains, and lift stations. The Master Plan also revised water and wastewater demand projections. Prior to approval of its Master Plan in July 2005, VWD prepared a *Final Supplemental Environmental Impact Report for the Water, Wastewater, and Water Reclamation Master Plan Update*.

In 2008, VWD adopted a Drought Response Conservation Program through Ordinance No. 159. Modeled after the CWA ordinance, Ordinance No. 159 established three levels of supply shortages with corresponding restrictions. Consistent with the CWA model, there are no restrictions on new potable water service connections at Level 1 or 2 of the VWD ordinance. Restrictions on new potable water supply are available as conservation measures under Drought Critical – Level 3, which is when CWA notifies VWD that "due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands." As noted above, CWA has notified VWD that it is at Level 1 – Drought Watch.

Wastewater

The majority of the project is located within the boundaries of the VWD. VWD owns an existing 8 in. public sewer main that is located approximately 0.25 mi. south of the project boundary in Sarver Lane. An intra-district annexation, which consists of a request for sewer service to a parcel that is within the VWD and within the service area basin for water, will be required prior to service being available (VWD Annexation Procedures 2003). Estate lots located in the northern portion of the project site will utilize septic tanks. Therefore, the RMWD will not be providing wastewater services to the project site. Figure 4.1-3 shows the existing and proposed district boundaries.

Solid Waste

EDCO Disposal Corporation currently provides trash, recycling, and yard waste services for residential customers within unincorporated areas of San Diego County in the community near the proposed project. EDCO has the ability to provide service during the construction and operation phases of the project. In addition, EDCO provides a curbside recycling program, which would service the project site. Solid waste collected by EDCO from the project area would likely be deposited in either the Sycamore Landfill in Santee or the Miramar Landfill in San Diego. The Sycamore Landfill has a permitted maximum disposal of 3,300 tons per day and as of the year 2000 had a remaining capacity of 85%. The California Integrated Waste Management Board anticipates a closure date of January 1, 2016 for the Sycamore Landfill. The Miramar Landfill has a permitted maximum disposal of 8,000 tons per day and as of the year 2000 had a remaining capacity of 34%; the California Integrated Waste Management Board anticipates a closure date of December 31, 2011.

Libraries

Three libraries are located within the vicinity of the proposed project. The Vista Branch of the San Diego County Library is located at 700 Eucalyptus Avenue in Vista. The Vista Branch Library has a total floor area of 30,394 sq ft and contains approximately 147,000 publications (including books, magazines, newspapers, and media material) as of the last 2004/2005 estimate. The San Marcos Branch Library is located at 2 Civic Center Drive and has 15,000 sq ft of floor area. The Valley Center Library is located at 29200 Cole Grade Road. The County of San Diego's General Plan standard for libraries is that the County of San Diego shall construct a minimum of 0.35 sq ft of library floor space and 2 books, or the equivalent in automated information sources, per resident served by the county library (San Diego, County of 1991).

4.1.2.2 Identification and Discussion of Guidelines for Determination of Significance

The project would have a significant utilities or public service impact if it results in:

- 1) Substantial adverse physical impacts associated with the provision of public services or utilities to the project, by the need for new or altered facilities
- 2) Substantial adverse effects with respect to the ability of service providers to maintain acceptable service ratios, response times, or other performance objectives related to fire protection, police protection, schools, and parks
- 3) The proposed project demand for potable water cannot be met with current projected water supplies from the applicable service provider

- 4) Determination by the applicable service provider that wastewater treatment and disposal capacities are not sufficient to service the project.

Guideline Sources

The identified guidelines are based on Appendix G of the State CEQA Guidelines and County of San Diego's General Plan Public Facilities, Services, and Safety Element 1991. The thresholds are intended to ensure that adequate police and fire service response times are met; that critical life support services such as gas and electric and water availability are provided; and adequate school, library, and solid waste facilities are available for area residents.

4.1.2.3 Analysis of Project Effects and Determination as to Significance

Guideline 1: Adverse Physical Impacts Associated with the Construction of Public Services or Utilities to the Project by the Need for New or Altered Facilities

a. Fire Protection

Station 11 appears to be in good condition; it is clear that the facilities at Station 12 are in need of modernization or replacement, which could be funded as a result of the Merriam development.

The DSFPD receives funds generated through San Diego County's Fire Mitigation Fee program for capital improvements and operational funding generated through fire fees. The fee is periodically adjusted by the board of supervisors, and is reflective of the participating fire districts agreement that the fee provides a fair share from development to meet the capital expenditure needs associated with growth in their respective communities. The mitigation fee is currently set at \$.42 per sq ft of building and those funds are collected at the time building permits are issued.

Based on the proposed land use plan Merriam will generate an estimated \$2.9 million to the DSFPD through the San Diego County Fire Mitigation Fee program for capital improvements. Of particular note for the DSFPD, the Mitigation Fees are sufficient to cover the costs to construct a fire station on site.

SMFPD will serve the 16 ac. area of Merriam within their jurisdiction in support of the initial response by DSFPD's Station 12. SMFPD will respond from a fire station located near the intersection of Mission Road and Twin Oaks Valley Road. The SMFPD also operates three other fire stations that are available to provide backup support should it be required.

The SMFPD also receives funds generated through San Diego County's Fire Mitigation Fee as well as funding from a Mello-Roos Community Facilities District assessment for capital

improvements in the unincorporated area of the district. The current Fire Mitigation Fee is based on \$0.42 per sq ft of building and is collected at the issuance of a building permit. It is estimated that Merriam will generate \$57,800 for the SMFPD from the county's Fire Mitigation Fee to be used for capital improvements. The fee is periodically adjusted by the board of supervisors, which may result in additional revenue during the life of the project. The board of directors of the district has discretionary control of these funds for capital improvements. No immediate facility needs were identified.

DSFPD funds its annual operations through a combination of property taxes, a Standby/Availability Assessment Fee, and Fire Suppression Fee, which was approved by the voters of the district in 2004. The estimated revenues generated by Merriam from these sources will provide the following estimated annual revenues sources for operational funding: Fire Suppression Assessment Fee (Bldg sq ft \times 0.85 \times 0.16) – \$943,743; Standby/Availability Assessment Fee (Bldgs/Acre Modifiers \times 12.66 – \$362,878; and property taxes (DSFPD Share of 1% – \$293,589. The total estimated annual revenues generated from the Merriam project for the DSFPD would be \$1,600,210

The SMFPD receives operational funding from property taxes and a Mello-Roos Community Facilities District that provides funding for fire protection. The area of Merriam Mountains within the SMFPD will annex into the Community Facilities District. Based on prototypical home types, the proposed project will generate an estimated \$38,804 in annual revenues from the Community Facilities District (\$9,907) and property taxes (SMFPD Share of 1%; \$21,410).

The entire development will be served by a water main and hydrant system to provide the fire flows required by the County Fire Code. Hydrants will be located in accordance with the requirements set forth by both of the fire districts. In addition, every structure will be equipped with fire sprinkler systems installed in accordance with the appropriate National Fire Protection Association (NFPA) standards, the County Building and Fire Codes, and the ordinances adopted by the two fire districts. Furthermore, all residential dwelling units and commercial buildings will be provided with fire sprinklers in accordance with NFPA 13 to reduce the need for additional truck company responses. Through the payment of fire mitigation fees and with the general fire protection components included in the proposed project, no new fire protection facilities would be required, and the project will also be constructing a fire station within Neighborhood 1, Planning Area 1, that would not result in adverse physical impacts. Therefore, impacts from new or upgraded facilities would be less than significant.

b. Police Protection

The proposed project is located within an existing police service area provided by the County of San Diego. The development of the proposed project would result in an incremental increase in

demand on law enforcement services and when combined with the demand associated with anticipated population growth and other potential development projects within the project area, additional police personnel, support staff, and related equipment and facilities would be required to effectively meet the demands of the proposed development as well as anticipated future development in the surrounding area. As discussed above in Section 4.1.2.1, the county sheriff does not currently meet the standards for law enforcement outlined in the County of San Diego General Plan, resulting in law enforcement resources for the project area being below the desired level, seriously impacting the sheriff department's ability to provide adequate services.

This development and its attendant rise in population will necessitate an increase in law enforcement to meet the additional demands for services that invariably accompany population growth. The desirable law enforcement service level for incorporated areas as a whole has been determined by crime analysis to be a "24-hour service package," consisting of seven patrol deputies, two detectives, one supervisor, and one clerical support staff for each 10,000 resident population. Therefore, approximately 1 sworn officer per 1,000 new residents is required to meet the desirable law enforcement service level for a "24-hour service package." The estimated population for Merriam is approximately 7,614 individuals, resulting in the need for 7.5 new officers to meet desirable law enforcement service levels.

This project could negatively impact service delivery to the project site, as well as impact service levels within the county sheriff's jurisdiction. Therefore, additional resources commensurate with changes in land use or increases in population density have been added to maintain service levels. The County Sheriff's Department has indicated a number of project design features that could relieve the existing strain on Sheriff services. Project design features recommended by the sheriff's department per the Crime Prevention Through Environmental Design (CPTED) guidelines have been included as a condition of approval of the final site plans in the Specific Plan. These conditions include measures such as installing security cameras, providing sufficient lighting on the project site, benches that facilitate sitting and resting rather than sleeping, and use of building materials that discourage graffiti or other vandalism.

A new station or station upgrade would not be required to accommodate additional staff (County of San Diego, Sheriff Department July 2009).

With incorporation of the project design features discussed above and the proposed project being required to pay its fair share for increased law enforcement services via future residential property taxes, the potential impact to law enforcement services would be less than significant.

c. Schools

The Bonsall Union School District, San Marcos Unified School District, and Escondido Union School District utilize student generation rates to determine the projected number of students that would be generated for a new development proposal. The existing school district boundaries are shown on Figure 4.1-2.

In planning school facilities, San Marcos Unified School District, Escondido Union School District, and Bonsall Union Elementary School District have developed a student generation rate, which includes the projected number of students per single-family residential unit and students per multifamily residential unit for proposed residential developments (see Table 4.1-3). As seen in Table 4.1-3, implementation of the proposed project would generate approximately 1,208 students. The student generation from the proposed project would be distributed throughout four project phases: Phase I would generate 505 students that would be located within the Escondido Union School District; Phase II would include 319 students that would be located within both the Escondido Union School District and San Marcos Unified School District; Phase III would include 153 students attending the Escondido Union School District, San Marcos Unified School District, and Bonsall Union School District; and Phase IV would generate 231 students that would be located within the Escondido Union School District and San Marcos Unified School District. Project construction would take place in four major phases over 8 to 10 years depending on market demand, thus dispersing student generation amongst the districts over an 8 to 10 year period.

Implementation of the proposed project would generate approximately 425 total students within the San Marcos Unified School District, consisting of 232 elementary school students, 101 middle school students, and 92 high school students. The number of students attending Escondido Union School District would be approximately 778, consisting of 358 elementary school students, 177 middle school students, and 243 high school students. Students attending the Bonsall Union Elementary School District would consist of approximately five middle school students (see Table 4.1-3).

Sources of funding for capital improvements and operations originate with school facility fees and state and local funding. The developer will be required to pay development impact fees to the following school districts: San Marcos Unified School District, Escondido Union School District and Bonsall Union Elementary School District. Currently, the San Marcos Unified School District assesses development fees for residential development at a rate of \$4.26 per sq ft for residential development and \$0.42 per sq ft for commercial development. The Bonsall Union Elementary School District assesses development fees for residential development at a rate of \$2.63 per sq ft for residential development and \$0.42 per square foot for commercial development. In addition, the Escondido Union School District currently assesses development

fees for residential development at a rate of \$3.58 per sq ft for residential development and \$0.42 per sq ft for commercial development. These fees are generally increased at the beginning of each year; therefore, this fee may increase before the development is constructed. The proposed project would be required to pay state-mandated school facilities fees to contribute a fair-share amount to help maintain adequate school facilities and levels of service. Fees would be paid to all affected school districts in accordance with California Government Code Section 65995-65997 prior to occupancy of any homes. The payment of these fees would offset potential impacts to the construction or expansion of new school facilities. The development of new school facilities are not planned as a result of the proposed project. However, the school districts may decide to construct new facilities to accommodate students. The school district would be responsible for construction of new facilities if required and would be subject to a separate CEQA process.

Project availability forms have been provided by each school district and are provided in Appendix U. Appropriate fees would be paid to all five affected school districts in accordance with state law prior to occupancy of any homes. Therefore, no significant impacts to school facilities are anticipated.

d. Parks

Thirty-seven parks are proposed for development within the project site. As discussed in Section 4.1.3, recreation impacts for all environmental issues within the development area are addressed throughout this EIR. No separate or specific impacts would be associated with construction of specific parks and recreation facilities. All impacts for park facilities that would be required as a result of this project have been included within the project area and evaluated within this EIR; therefore, impacts would be less than significant.

e. Potable Water

Several infrastructure improvements will be required within the VWD and RMWD service areas to supply the proposed project with an adequate water supply. The proposed residential development would require the relocation of some existing water mains on the project site, construction of new water mains and construction of two new water reservoirs. *The Master Plan of Water for the Merriam Mountains Project* (Dexter Wilson Engineering, Inc. July 2006) provides the design criteria used to evaluate recommended water system improvements for the proposed project. The criteria used in the Master Plan for the proposed project are consistent with the VWD *Water, Wastewater, and Water Reclamation Master Plan Update*, as revised in 2005.

Water Reservoirs. Currently, there are two 1.3 MG water reservoirs within the project site that serve the project area as well as adjacent properties. Two new water storage reservoirs would be needed to supply the proposed development. A new 4.6 MG water reservoir will be constructed for the Coogan 1608 Zone next to the existing 1.3 MG reservoir. The new Coogan reservoir will be fed by the existing Coogan Pump Station through the 16 in. pipeline that currently feeds the existing 1.3 MG Coogan reservoir. A new 3.7 MG water storage reservoir will also be constructed for the Deer Springs 1235 Zone within Neighborhood 1. The new Deer Springs reservoir will be tied to the existing Deer Springs Pump Station on Deer Springs Road with a new 10 in. pipeline. It should be noted that a portion of this pipeline would be 12 in.

Water Mains. The existing networks surrounding the project area consist of water pipelines ranging in size from 8 to 16 in. lines. Water pipelines will be constructed on the project site consisting of 12 and 10 in. lines with the exception of a water pipeline in Merriam Mountains Parkway that will be a 16 in. line from Deer Springs Road to the Coogan reservoir connector. Water pipelines will be constructed off site within the VWD service area to supply water to the Merriam site as follows (see Figure 1.1-17):

- 10 in. water line along Deer Springs Road from approximately 0.5 mi. west of the Deer Springs Road/I-15 southbound on-ramp to approximately 0.25 mi. west of the proposed Meadow Park Lane
- 12 in. water line along Meadow Park Lane to connect to the 10 in. water line along Deer Springs Road.

Within the RMWD, a 6 in. water line extending from Buckshot Canyon Road to Lawrence Welk Drive will be constructed to service the estate lots (see Figure 1.1-17). The required improvements along Buckshot Canyon Road will meet the fire flow requirements for the Estate Lots to boost fire flows to 1,050 gallons per minute (GPM) as identified in the RMWD 2006 Master Plan. The funding mechanism for the improvements will be ensured through connection fees and included in the Master Agreement between the RMWD and the project applicant.

On-site construction of potable water facilities will occur within the development area and there are no additional physical impacts associated with construction of these facilities. Impacts from construction of off-site water facilities for the project have been evaluated elsewhere in the EIR, primarily in the biological and cultural resources sections. Impacts associated with facilities along Deer Springs Road would occur within the grading footprint analyzed for roadway construction and would not result in impacts beyond those identified for roadway construction. Other off-site improvements required for the provision of potable water would generally occur within existing disturbed rights-of-way as noted in the Section 1, Project Description, of this

EIR. As a result, there are no adverse physical impacts associated with construction of potable water service facilities for the proposed project.

f. Wastewater

As mentioned in Guideline 4 below, the realignment of an existing 8 in, off-site sewer line with a new 15 in. sewer line is proposed from the intersection of Del Roy/Twin Oaks Valley Road and continues north along Twin Oaks Valley Road to Deer Springs Road and on to Sarver Lane and to the proposed project site (refer to Figure 1.1-17). Impacts for all environmental issues within the development area are addressed throughout this EIR. No separate or specific impacts would be associated with construction of wastewater facilities. Therefore, aside from installation of on-site wastewater conveyance facilities and improvements along Deer Springs Road, Twin Oaks Valley Road, and Sarver Lane no new wastewater facilities or expansion of existing facilities would be required as a result of this project. Impacts in relation to wastewater pipeline conveyance facilities and disposal would be less than significant with required pipeline infrastructure improvements identified in the EIR that will be verified through a Master Agreement between VWD and the developer, prior to the issuance of building permits.

Potential impacts for wastewater facilities that would be required as a result of this project have been included within the project area and evaluated within this EIR. In addition, Figure 1.1-17 provides certain off-site water and sewer facilities that would be necessary, which are evaluated in the appropriate section of this EIR.

g. Solid Waste Disposal

Potential impacts relative to waste generation include construction debris, residential debris, commercial debris, and potential hazardous waste generation. Landfill capacity estimates are generated through the use of several data. General Plan planned land use designations provide landfill capacity planning staff with an estimate of the type and density of land use reasonably anticipated throughout a landfill's service area. The County of San Diego regularly reviews its landfill capacity and needs and provides strategies for providing adequate solid waste disposal when updating the Landfill Siting Element every 5 years.

Existing and proposed landfills could accommodate San Diego County solid waste needs, including the expected solid waste from the proposed project. The proposed expansion of the Sycamore Landfill and a proposed landfill at Gregory Canyon are in the permitting process and would provide San Diego County with an excess of 140.8 million tons of capacity in 2017 (Countywide Siting Element 2005). As indicated above, the project would be serviced by both the Sycamore Canyon Landfill and Miramar Landfill. The project would result in an increased demand on both the Sycamore Canyon Landfill and the Miramar Landfill.

The unincorporated portion of the County of San Diego is mandated by the California Integrated Waste Management District to divert 50% of its waste stream away from landfills by 2000 (AB 939). State Bill 1374, signed by the governor in 2002, requires jurisdictions to adopt construction and demolition debris recycling programs or ordinances when under AB 939 compliance orders. Information obtained on the California Integrated Waste Management District website, indicates that the unincorporated portions within the County of San Diego have diverted between 48% and 50% of its solid waste between the years of 1995 and 2004. The County of San Diego operates a number of programs to reduce, recycle, and properly divert solid waste from the sanitary landfills to meet the state mandate including, a composting facility recovery, policy incentives, public education, recycling, source reduction, and special waste materials transformation.

Source reduction, recycling, and composting can reduce a project's waste disposal by as much as 50%. To ensure that the development of the proposed project is maintained in compliance with the efforts of the County of San Diego to meet the mandate of AB 939, environmental design considerations have been included as an element of the proposed project to facilitate appropriate waste generation minimization and recycling efforts. As identified in Chapter 8 if the EIR, the proposed project will include the following Environmental Design Consideration to reduce solid waste generation: Merriam Mountains will provide commercial tenants and residents with separate recycling and waste receptacles to support the 50% state-wide solid waste diversion goal (AB 939) and will require separation and recycling of construction waste.

Given the size of the proposed development relative to the service area population (approximately 2,700 residential units and 10.1 ac. of commercial use), the project would not significantly affect current use of or cause substantial burdens on the solid waste disposal providers or county landfills. In addition, due to the project site being primarily vacant, development of the proposed project is not anticipated to result in an exceptionally large amount of construction waste generation that may otherwise result from large demolition activities of existing structures. Construction waste generation would be equivalent to that normally associated with greenfield development and therefore would not substantially affect the Sycamore Canyon Landfill or Miramar Landfill capacity threshold to accommodate construction debris from the proposed project. Therefore, the proposed project would not result in significant individual or cumulative impacts to solid waste disposal services.

EDCO Waste and Recycling Services will be responsible for hauling construction waste and debris. EDCO has the ability to provide service during construction and once the project is occupied. In addition, EDCO provides a curbside recycling program that would service the proposed project. The recycling program includes recycling of glass bottles and jars, cardboard, newspapers, cans, plastic containers, and mixed paper, thereby reducing the amount of solid

waste diverted from the project site to a landfill. The recycling program includes recycling of glass bottles and jars, cardboard, newspapers, cans, plastic containers and mixed paper, therefore reducing the amount of solid waste diverted from the project site to a landfill. Anticipated solid waste products are typical of residential uses and would not violate any federal, state, or local statutes or regulations related to solid waste.

h. Natural Gas and Electricity

Natural gas and electricity in the project area are provided by San Diego Gas & Electric (SDG&E). The overhead electric lines and an underground gas line that service the local businesses and residences in the project area are located along Deer Springs Road and Mesa Rock Road. Increased demand for natural gas and electricity as a result of the proposed project would require the extension of those utilities to the site. Based on coordination with local service providers, including SDG&E, the project would be sufficiently served with electricity and natural gas (see Appendix U of the Merriam Mountains Specific Plan Draft EIR, dated August 2007, for the will-serve letter). SDG&E has indicated that the availability of energy to service the project site will be based upon supply of fuel and other essential materials available. In accordance with SDG&E “rules for the sale of electric energy” and “rules for the sale of gas” filed and approved by the California Public Utilities Commission, gas and electric facilities can be made available to the project site. Current system usage would not be affected due to the proposed project and no substantial burdens would be placed on the local providers. There would be no need for a new utility system/supplies or substantial alterations to current conditions of utilities and service providers. Therefore, significant impacts to natural gas and electricity would be less than significant.

i. Communication Systems

Extension of telephone lines to the site would be required to provide service for the proposed development. Based on coordination with local service providers, including Pacific Bell and Cox Communications, the project would be sufficiently served with telephone connection and service (see Appendix U of the Merriam Mountains Specific Plan Draft EIR, dated August 2007). The nearest telephone lines are located on Deer Springs Road south of the project. Utility easements for telephone lines would be located within the proposed roadways. The proposed use of telephone service for the proposed project would not significantly affect current use of these systems or cause substantial burdens on the local providers. The project would not create a need for a new utility system or supplies or cause substantial alterations to current conditions of utilities and service providers. Thus, the proposed project would not result in significant impacts to communication systems.

j. *Libraries*

The County General Plan has the following objective identified, "...Achieve, through consistent and incremental improvement, the facility levels of 0.35 sq ft of branch library floor space and 2.0 books, or the equivalent in automated information sources, per resident served by the County Library" (County of San Diego General Plan, Public Facilities Element 2005). The proposed project will generate approximately 7,614 residents. Funding for construction of new county library facilities comes from external non-operating sources, including redevelopment tax increment financing within cities, contributions from the cities and communities served, private contributions, and federal Library Services and Construction Act (LSCA) Title II grants. Since the County Library has its own property tax share (approximately 1.5% of the 1% property tax), funding library facilities is not the responsibility of the County General Fund. Government Code Section 53717 et seq. authorizes local jurisdictions to impose special taxes for the purposes of providing public library facilities and services. Such taxes cannot be assessed on an ad valorem basis but may be based on benefit received by parcels of real property. The payment of developer fees levied prior to the issuance of building permits would provide library services; therefore, the project would not significantly affect existing library facilities.

Guideline 2: Maintain Acceptable Service Ratios or Response Times

a. *Fire Protection*

DSFPD provides fire service for the Merriam Mountains project except for Neighborhood 2, Planning Area 3, which is served by SMFPD. Primary first responder service will be provided by DSFPD from the proposed on-site Fire Station located within Neighborhood 1, Planning Area 1 (commercial area), DSFPD's Fire Station 11 (intersection of Interstate 15 (I-15) and Circle R Drive), and Fire Station 12 (intersection of I-15 and Deer Springs Road). Both the SMFPD and DSFPD are signatory to the North Regional Zone Master Automatic Aid Agreement for Fire, Medical and Rescue Responses. This reciprocal Automatic Aid Agreement, adopted by both Fire Protection Districts, provides the legal and intended means for the SMFPD to assign and dispatch DSFPD units in order to better serve the residents of the project site located within the SMFPD service areas by sending the closer resources to an emergency regardless of jurisdiction. Therefore, the portion of the project site located within the SMFPD boundary will receive primary first responder service from the on-site fire station located within the project site or DSFPD Fire Station 12. The remainder of the project site located within the DSFPD will receive primary first responder service by the proposed on-site fire station, DSFPD's Fire Station 11 and Fire Station 12.

DSFPD and SMFPD are also parties to automatic aid or mutual aid agreements with the other San Diego County fire protection agencies. These agreements provide additional resources

during emergency conditions. Wildland areas on the Merriam project are the responsibility of CDF due to their SRA designation. Both fire districts, along with other area agencies, respond simultaneously with CDF for wildland fires through a coordinated local agency response system.

The County General Plan Public Facilities Element (PFE), Section 11-1, requires that single-family residential lots less than 2 acres, or more intensive land uses, such as multifamily residential, be located within a maximum travel time of 5 minutes. Large-lot, single-family residential development of lot sizes greater than 4 acres shall be located within a 20-minute maximum travel time. The proposed project includes single-family, multifamily, and commercial uses within Neighborhoods 1 through 5 that will be required to be within a 5-minute maximum travel time. The Estate Lots located in the northern portion of the project site include single-family homes that include a minimum lot size of 5 acres, which require a 20-minute maximum travel time.

An analysis of travel times for Neighborhoods 1 through 5 (excluding the Estate Lots and Neighborhood 2, Planning Area 3) was completed using the National Fire Protection Association (NFPA) 1142 Table C.1.11(b) method as called for in the Wildland Fire and Fire Protection County Guidelines (December 2008). Analysis concluded that travel times to development areas from the proposed on-site fire station would be within 5 minutes, as called for in the PFE. Figure 4.1-4 depicts the analysis parameters and results.

The Estate Lots are considered rural and the PFE required travel time for this land use type is 20 minutes. Travel time analysis for the Estate Lots was completed using the NFPA 1142 Table C.1.11(b) method as called for in the Wildland Fire and Fire Protection County Guidelines (December 2008). Analysis concluded that travel times to the Estate Lots from DSFPD Fire Station 1 would be within 5.3 minutes, which meets the requirements called for in the PFE. Figure 4.1-5 depicts analysis parameters and results.

As previously noted, Neighborhood 2, Planning Area 3 is located within the SMFPD service area. According to the Mutual Aid Agreement, this portion of the project site will receive primary first responder service from the on-site Fire Station and/or DSFPD Fire Station 2. Travel time analysis for Neighborhood 2, Planning Area 3 was completed using the NFPA 1142 Table C.1.11(b) method as called for in the Wildland Fire and Fire Protection County Guidelines (December 2008). Analysis concluded that travel times to development areas would be within 3.4 minutes, which meets the requirements called for in the PFE. Figure 4.1-6 depicts analysis parameters and results. The analysis assumed a worst-case scenario of providing response from the proposed on-site fire station as the travel time would be reduced if response was provided from DSFPD Fire Station 2, located at the I-15/Deer Springs Road intersection. Figure 4.1-6 depicts analysis parameters and results.

Both fire protection districts and CDF include an assortment of available fire apparatus and equipment considered fully capable of responding to the type of fires potentially occurring within and adjacent to the Merriam Mountains project. Existing fire station facilities from which response will occur vary in overall condition within the DSFPD. Station 1 is generally in good operating condition but Station 2 is in need of upgrade. Response from the SMFPD would occur from a modern station near Mission Road and Twin Oaks Valley Road.

In summary, the proposed project would increase demand for fire services in the project area due to the introduction of 2,700 homes and proposed commercial uses. The project includes construction of an on-site fire station and payment of fees to each fire district. These project features would reduce impacts to fire service ratios and travel time to less than significant.

b. Police Protection

As discussed in Section 4.1.2.1, response time is the most meaningful indicator of the adequacy of the level of service. Initially, one or two officers generally respond to calls for assistance. More dangerous calls can draw upon city units. For dangerous or manpower intensive calls, the sheriff can invoke mutual aid agreements to augment the response. Response time to the project will vary based on the location and availability of law enforcement officers, patrol schedules, and the priority of the call. As discussed in previously, existing law enforcement services do not meet the standards outlined in the County of San Diego General Plan. Therefore, response times to the project site cannot always be guaranteed to fall within the minimal response time designated by the San Diego County General Plan.

In 2006, sheriff deputies responded to 23,528 calls in the City of San Marcos and wrote 1,977 crime reports. Future law enforcement activity at the proposed project site was determined by the San Diego County Sheriff based on a similar project that had been recently developed in the area. The proposed project is expected to generate approximately 968 calls for services and 147 crime cases. Once developed, the proposed project would potentially increase the number of calls in the City of San Marcos by 2% and the number of crimes by 3% (San Diego County Sheriff's Department San Marcos Sheriff's Station 2007).

The desirable law enforcement service level for incorporated areas as a whole has been determined by Crime Analysis to be a "24-hour service package," consisting of seven patrol deputies, two detectives, one supervisor and one clerical support staff for each 10,000 resident population. Therefore, approximately 1 sworn officer per 1,000 new residents is required to meet the desirable law enforcement service level for a "24-hour service package." The estimated population for Merriam is approximately 7,614 individuals, resulting in the need for 7.5 new officers to meet desirable law enforcement service levels.

The proposed project would impact the San Diego County Sheriff's ability to maintain acceptable response times and service ratios due to an increase in the number of calls for service, longer response times, increased number of crime reports, additional follow-up investigations, and preparation of cases for prosecution and resolving complaints from residents and visitors. However, through project design features per the recommendations of CPTED and via the project being required to pay its fair share for increased law enforcement services via future residential property taxes, would ensure that an adequate level of public safety will be maintained, reducing the potential impact to services below a level of significance.

c. Schools

As shown above in Guideline 1, the proposed project would be required to pay state-mandated school facilities fees to contribute a fair-share amount to help maintain adequate school facilities and levels of service. Project availability forms have been provided by each school district and are provided in Appendix U to the Merriam Mountains Specific Plan Draft EIR, dated August 2007. Appropriate fees would be paid to all affected school districts in accordance with state law prior to occupancy of any homes.

In planning school facilities, San Marcos Unified School District, Escondido Union School District, and Bonsall Union Elementary School District have developed a student generation rate that includes the projected number of students per single-family residential unit and students per multifamily residential unit for proposed residential developments (see Table 4.1-3). As seen in Table 4.1-3, implementation of the proposed project would generate approximately 1,208 total students. Phase I would generate 505 students that would be located within the Escondido Union School District; Phase II would include 319 students that would be located within both the Escondido Union School District and San Marcos Unified School District; Phase III would include 153 students attending Escondido Union School District, San Marcos Unified School District, and Bonsall Union Elementary School District; and Phase IV would generate 231 students that would be located within the Escondido Union School District and San Marcos Unified School District (see Table 4.1-3).

San Marcos Unified School District, Escondido Union School District, and Bonsall Union Elementary School District have stated that existing or new schools within the Escondido area would have the ability to accommodate the projected student population of the proposed project (Appendix U to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). The development of new school facilities is not planned due to the proposed project. The payment of developer fees levied by each school district prior to the issuance of building permits would support the district's facilities program. California Government Code Section 65995-65997 (amended by SB 50) states that public agencies may not impose fees, charges, or other financial requirements to offset the cost for school facilities. However, the code does include provisions

for levies against development projects near schools. Government Code Section 65996 also recites that the development fees authorized by SB 50 are deemed to be “full and complete school facilities mitigation” for the purposes of CEQA or for any other reason. A local agency may not deny approval of a legislative or adjudicative action under CEQA relating to real estate development on the basis of the inadequacy of school facilities. Fees would be paid to all affected school districts in accordance with California Government Code Section 65995-65997 prior to occupancy of any homes. The payment of these fees would offset potential impacts to the construction or expansion of new school facilities. The development of new school facilities are not planned due to the proposed project. However, new facilities may be built to accommodate students, which the school district would be responsible for the construction of. In the case that new facilities are proposed, they would be subject to a separate CEQA process.

Project availability forms have been provided by each school district and are provided in Appendix U to the Merriam Mountains Specific Plan Draft EIR, dated August 2007. Appropriate fees would be paid to all five affected school districts in accordance with state law prior to occupancy of any homes. Therefore, no significant impacts to school facilities are anticipated.

d. Parks

As shown in Section 4.1.3, Recreation, the proposed project would include a total of 37 improved parks that will provide recreational opportunities to the residents of Merriam and therefore would not increase the use of existing neighborhood or regional parks. The proposed parks are within the identified development area for the Merriam project. Impacts for all environmental issues within the development area are addressed throughout this EIR. No separate or specific impacts would be associated with construction of specific parks and recreation facilities. The Recreation Element of the San Diego County General Plan sets forth a standard of 15 ac. per 1,000 populations for local parks. It is anticipated that the 2,700 homes that would be provided by Merriam would generate the need for approximately 23 ac. of parkland. The proposed project would exceed this requirement by providing a total of 37 public or private parks comprising approximately 89 ac., including approximately 60 ac. of natural parkland. In addition, the project proposes 18.3 mi. of trails. These parks and other recreational facilities are intended to provide convenient recreational opportunities to the future residents of Merriam. Therefore, the project is providing adequate recreation and impacts would be less than significant.

Guideline 3: Demand for Potable Water Cannot Be Met Within Current Projected Water Supplies From Service Provider

The potable water demands generated from the proposed project would be serviced by both the VWD and RMWD. The VWD would serve the majority of the project site with the exception of

the 10 estate lots, which will be serviced by the RMWD. The potable water supply discussion presented below is based on water supply demands being met by either the RMWD or VWD.

SB 610 requires projects that are subject to CEQA and are supplied with water from a public water supplier to obtain a “water supply assessment” from the supplier indicating the availability of adequate water over a 20-year projection. In addition, SB 221 prohibits the approval of subdivisions consisting of 500 or more dwelling units unless there is verification of adequate water availability over a 20-year projection.

Rainbow Municipal Water District

The water provider for the 10 estate lots located in the northern portion of the project site would be the RMWD. A WSA&V was not prepared for the estate lots as the proposed number of units is below the threshold that would require a WSA&V to be prepared per SB 610 and SB 221. However, a Water Service Availability Letter has been prepared stating that RMWD has availability to service the proposed estate lots (see Appendix U of the Merriam Mountains Specific Plan Draft EIR, dated August 2007). The RMWD draft 2005 UWMP projects adequate supplies to meet future demands for the RMWD service area, based on SANDAG’s most recent growth forecast and land-use data. SANDAG’s growth forecasts are based on the land-use policies of the county and cities within the San Diego region so that planned growth is included in the demand forecast prepared by RMWD. Average annual unit water demands were developed for the General Plan land-use categories and apportioned within the RMWD distribution system.

The RMWD draft 2005 UMWP projects a steady reduction of agricultural water use and a steady increase in domestic water use over time. Based on standard water duty factors, the RMWD 2005 UWMP projects lower water demand for residential uses than for equivalent acreages of agricultural uses. Since the northern area of the project is identified for agricultural use in SANDAG’s 2020 land use coverage, the proposed residential uses will therefore use less water than the uses projected by RMWD in its 2005 UWMP. As a result, the estate lot portion of the proposed project would have less of an impact on water availability than currently projected uses, as indicated in the RMWD water planning documents and policies.

As noted above, RMWD imports all of its water from SDCWA, so it is dependent on SDCWA maintaining adequate supplies to meet demands within San Diego County. However, as noted above, SDCWA and its primary supplier, Metropolitan, also use SANDAG’s most recent regional growth forecasts to calculate future demands within their respective service areas to ensure consistency between the retail and wholesale agencies’ water demand projections, thereby ensuring that adequate supplies are being planned for RMWD’s current and future water uses.

Vallecitos Water District

The water provider for lots located in the southern portion of the project site would be VWD. A WSA&V was prepared for the 2,690 units located within the VWD service area to meet the requirements of SB 610 and SB 221 (see Appendix N of the Merriam Mountains Specific Plan Draft EIR, dated August 2007). In addition, a Water Service Availability Letter has been prepared stating that VWD has availability to service the proposed development provided that infrastructure improvements discussed in the Merriam Mountains Master Plan of Water (Dexter Wilson Engineering 2006) are constructed (see Appendix U of the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

The WSA&V includes a discussion of the relevant legislation requiring the water supply assessment, an overview of the proposed project, analysis of water demands for the VWD existing supply sources and the projected water demands over a 20-year or more planning period, analysis of reliability of the VWD water supplies, and concludes with a sufficiency analysis of water supply during normal, single-dry, and multiple dry years over a 20-year planning period. A discussion of both the water demand generated from implementation of the proposed project and the source of water supply to meet the project demands is included below and further detail is provided in the Merriam WSA&V (Appendix N to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). The WSA&V for the Merriam Mountains Specific Plan was approved on July 5, 2006 by the VWD Board of Directors.

Water Demand: The projected potable water demands for the VWD UWMP are based on SANDAG's most recent growth forecast data. The VWD 2005 UWMP uses SANDAG's Series 9 projection data to estimate potential demand throughout the district's service area. Average annual unit water demands were developed from the County of San Diego's General Plan land-use categories and apportioned within the VWD distribution system.

The uses proposed by the Merriam project are different from the land uses identified for the project site by SANDAG in its 2020 projections. However, based on the proposed land uses as shown in Appendix N to the Merriam Mountains Specific Plan Draft EIR, dated August 2007, and using updated unit water duty factors developed for the current VWD *Water, Wastewater, and Reclamation Master Plan*, the water demand for the portion of the Merriam project within VWD is estimated at 1.31 million gallons per day (MGD) (see 2006 WSA&V, attached as Appendix N to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). This compares to an annual average of 1.22 MGD of water if the property were developed for the land uses identified by SANDAG. The water demand for the Merriam project was estimated without considering the water conservation measures included as project design features or reductions attributable to the ban on unseasonable watering in the 1,192-acre biological open space preserve. Water demand for the Merriam project is therefore analyzed as a "worst case" scenario.

The amount of water required for the proposed project is only 0.09 MGD more than if the property were developed according to SANDAG's most recent growth forecasts. In other words, the project will require an increase of less than 7% over the total water demand currently forecasted for the site by SANDAG. The June 2006 WSA&V considers the specific land uses proposed for the Merriam Project, acknowledges the small change in water demand from the VWD 2005 UWMP, and confirms that the required water amounts are available under the most recently adopted UWMP.

Water Supply: In order to understand how water will be delivered to Merriam Mountains, a discussion of the VWD supply in relation to the supply capabilities of both Metropolitan and the SDCWA is provided below.

Vallecitos Water District Water Supply:

VWD obtains 100% of its potable water from SDCWA through the SDCWA aqueduct and currently has no local supply of potable water or groundwater; however, VWD has a three-part program to reduce needs for imported water. First, VWD has adopted an aggressive Water Conservation Program as a signatory to the Memorandum of Understanding (MOU) regarding BMPs for Urban Water Conservation with the California Urban Water Conservation Council (CUWCC) (WSA&V 2006). Second, VWD has also implemented a reclaimed water program to provide an alternate source of supply for some areas of the VWD service area. VWD reclaims about 2 MGD, which is sold to the City of Carlsbad for landscape irrigation. An expansion of the recycled water program is underway that will increase total deliveries to 5 MGD. The additional capacity would be used by the City of Carlsbad and the Olivenhain Water District. Therefore, VWD does not anticipate reclaimed water being available from this expansion for use within portions of the service area. Third, when available, it plans to buy into the desalination project planned by SDCWA in Carlsbad to provide a firm source of local water to the VWD. There is a high likelihood that all or most of these projects will proceed.

To further ensure the reliability of future water supplies within VWD, exchange agreements have been established with the Carlsbad Municipal Water District, Rincon Del Diablo Municipal Water District, Olivenhain Municipal Water District, and Vista Irrigation District.

Water supply projections for the VWD are analyzed in a regularly updated UWMP. These projections are based on a normal water supply year as described in VWD's 2005 UWMP, which indicates that projected potable water supply will meet the projected water demand of 19,409 ac. ft in 2010 to 22,903 ac. ft in 2030. Demand and supply in a single-dry year are estimated to range from 20,826 ac. ft in 2010 to 24,413 ac. ft in 2030. Based on dry-year forecasts, the estimated water supply will also meet projected water demand during multiple dry year scenarios, with supply and demand totals of 20,891 in 2011 and 23,739 in 2028 (WSA&V 2006). Thus, analysis

of normal, single-dry, and multiple dry year scenarios demonstrates VWD's ability to meet or exceed demand during the 20-year planning period, even under reduced imported water supply conditions.

Delta-Smelt Action Plan: VWD is a member agency of the SDCWA, which receives water from the Metropolitan Water District of Southern California (Metropolitan). In December 2007, District Court Judge Oliver W. Wanger ordered a series of restrictions on the operations of pumps that supply water from the Sacramento–San Joaquin Delta in order to protect delta smelt, a threatened fish in the Bay–Delta. In December 2008, the United States Fish and Wildlife Service issued a biological opinion concluding that restrictions on the operation of pumps for the SWP were necessary to avoid jeopardizing survival of the delta smelt. As a result of the ruling and biological opinion, water supplies from the Bay-Delta could be cut by up to one-third annually, although the reductions are not spread equally through the year. Assuming that Metropolitan passes the mandated water reductions through to all member agencies on a pro-rata basis, the delta smelt ruling and related actions could have the potential to reduce water supplies to SDWCA by approximately 12 percent in some years.

In addition, beginning January 1, 2008, agricultural water users in San Diego County have been required to reduce water use by 30% of the amount used during the previous year. The agricultural water supply reduction is the result of three concerns in relation to water supply: (1) drought currently being experienced in the Colorado River; (2) drought year in California; and (3) delta-smelt ruling and biological opinion that limit the amount of water exported to Southern California from the Sacramento–San Joaquin Delta resulting in water reductions from January to June in order to protect the endangered delta smelt.

In May and September 2007, Metropolitan adopted a framework for key elements of a Delta Smelt Action Plan to address water supply risks in the Delta both for the near and long term. Metropolitan is engaged in planning processes that will identify solutions that, when combined with the rest of the water supply portfolio, should ensure a reliable long-term water supply for its member agencies. In the long-term, Metropolitan expects that solutions will be adopted to restore supplies delivered from or through the Delta to previous levels. In the near term, Metropolitan will continue to rely on the plans and policies outlined in its Regional UWMP and Integrated Water Resources Plan to address water supply shortages and interruptions (including potential shut downs of pumps) to meet water demands. An aggressive campaign for voluntary conservation and recycled water usage, curtailment of groundwater replenishment water, and agricultural water delivery are some of the actions outlined by Metropolitan. As mentioned previously, this includes a 30% reduction in agricultural water use from the amount used during the previous year. Metropolitan is maximizing supplies from existing agreements for water supply from its Palo Verde Crop Management and Water Supply Program and working with the

State of Arizona to withdraw water previously stored in their groundwater basin. In addition, Metropolitan's Integrated Water Resources Plan supply portfolio includes pursuing water transfers as needed, such as the purchase of 200,000 acre-feet of previously stored California State Water Project supplies in the San Bernardino groundwater basin. If necessary, reduction in municipal and industrial water use and mandatory water allocation could be implemented. In February 2009, staff requested authority to pursue up to 300,000 acre-feet of transfer supplies from the Governor's 2009 Drought Water Bank for distribution to member agencies.

According to a news release issued August 31, 2007, by the SDCWA, several steps are being taken to address the water supply cutbacks. SDCWA is working with Metropolitan on its review of available water management options to help address potential supply shortfalls in 2008. SDCWA and Metropolitan have invested in diversifying their water portfolios by maximizing storage, local supply development, the Coachella and All-American canal lining projects, the water transfer from Imperial Irrigation District, conservation, and recycling. This year, the water transfer and canal linings will provide 71,500 acre-feet of reliable water. By 2011, the water transfer and canal lining projects will provide nearly 158,000 acre-feet of water. By 2021, they will provide 277,700 acre-feet annually.

In addition, alternative sources of water supply are being pursued. For example, the City of Carlsbad, a SDCWA member agency, is working on a seawater desalination plant. The SDCWA is also exploring other options for a seawater desalination plant in the County of San Diego. SDCWA is projecting that as a result of investments by its member agencies, groundwater production will triple from 14,956 acre-feet in 2006 to 52,300 acre-feet in 2020. Similarly, recycled water usage is expected to triple from 14,828 acre-feet in 2006 to 52,300 acre-feet in 2020. SDCWA is also exploring other potential short-term water transfers. SDCWA has committed to working with the governor, state legislators, federal officials, and other water agencies to determine a long-term solution to the Bay-Delta's infrastructure, and legal and environmental problems so that the California State Water Project will be able to safely and reliably convey water supplies to Southern California. In 2006, SDCWA implemented a drought management plan that has detailed steps for dealing with drought, including a formula for reduction of water supplies to its member agencies. Under the plan, each member agency would decide how it will implement the reduction for its customers, in accordance with its adopted drought ordinance. In the same manner, should Metropolitan reduce water supplies, it will be up to the SDCWA to decide how to achieve water savings or implement that reduction among its member agencies, in accordance with its adopted Drought Management Plan.

Agricultural Water Supply:

Twin Oaks Valley, where the Merriam project site is located, includes various agricultural uses (see subchapter 4.1.1.1). Agricultural uses located within Twin Oaks Valley and in the vicinity of

the project site rely on water supply from VWD. As discussed previously, the amount of water required for the proposed project is 0.09 MGD or 0.28 acre-feet per day (about 500 equivalent residential dwelling units) more than if the property were developed according to planned uses for the project site, which primarily include agricultural uses. The additional 0.09 MGD or 0.28 acre-feet per day is equivalent to servicing 36 acres of residential uses per day with potable water based on the generation rate of 2,500 gallons per day (GPD) per acre of residential use. The June 2006 WSA&V (Appendix N to the Merriam Mountains Specific Plan Draft EIR, dated August 2007), considers the specific land uses proposed for the Merriam project, acknowledges the change in water demand from the VWD 2005 UWMP and demonstrates that the required water amounts would be available under the most recently adopted UWMP.

According to VWD's adopted 2005 UWMP, 12% of potable water is allotted to agricultural users within the service boundary. Therefore, a 30% reduction in agricultural water allotments required by MET would reduce the total water supplied to VWD. VWD buys all of its water from the SDCWA, which is a wholesale agency that receives potable water primarily from Metropolitan. In the event Metropolitan does not have adequate water supplies available from imported supplies, storage or transfers to meet current-year demands for its member agencies, Metropolitan will notify the member agencies that it will reduce their water deliveries. Throughout this period, SDCWA will focus efforts towards augmenting supplies per water storage; however, if potable water supplies are unavailable or cost-prohibitive, the SDCWA Drought Management Plan (year) will be implemented, which provides a formula for allocating reduced amounts of water to each of its 24 member agencies, which includes VWD. The Drought Management Plan includes an Interim Agricultural Water Program (IAWP), which allows farmers to purchase water at a reduced rate in exchange to have water cutbacks of 30% during supply shortages before residential and commercial supplies are reduced. On October 22, 2007, Metropolitan officially notified its member agencies of its intention to implement a 30% reduction in deliveries of 2008 agricultural water supplies under its IAWP (Southern California Agricultural Water Group, November 2007). The action comes in response to record low rainfall in Southern California, continued drought conditions throughout the southwestern United States, and a federal court ruling to protect the endangered delta smelt. However, the project's water requirements would not directly affect the potential for future agricultural water cutbacks because agricultural water cutbacks are determined based on environmental conditions (e.g., drought and protection of delta resources) and demand in the entire Metropolitan service area. Agricultural water cutbacks are not determined by localized water demand. The June 2006 WSA&V report (Appendix N to the Merriam Mountains Specific Plan Draft EIR, dated August 2007) confirms that the required water amounts for the project are available under the most recently adopted UWMP under normal conditions. In the event water cutbacks were to occur, agricultural uses would be required to cut back water prior to residential uses, which is consistent

with the SDCWA Drought Management Plan. Therefore, the project would not affect local agricultural water availability.

VWD Pressure Zone Improvements:

Although VWD projects that adequate water will be available to serve the project, infrastructure improvements will be required within the VWD service area to bring the full amount of required potable water to the project site. As discussed above, a Master Plan of potable water for the Merriam Mountains was prepared by Dexter Wilson Engineering (July 2006). The Master Plan recommends the construction of the following water facilities;

Deer Springs 1235 – (1) Construction of a Deer Springs Reservoir Number 2 with a capacity of 3.7 MG, which will be located within the Merriam Mountains project and shall have a lower water line of 1,235 ft and a high water line of 1,267 ft to match the existing reservoir; (2) proposal for a parallel 10 in. water line from the Deer Springs Pump Station to the Deer Springs Reservoir with a portion of the parallel pipeline being a 12 in. line; (3) proposal of 8 in. through 12 in. water lines within the 1235 Zone; (4) proposal of a 1608/1235 Zone pressure reducing station; and (5) a 16 in. water pipeline in Merriam Mountains Parkway will also be constructed from Deer Springs Road to the Coogan Reservoir connector.

Coogan 1608/Proposed 1400 - (1) Establishment of a new 1400 Zone to reduce pressure off the Coogan 1608 Zone system and (2) proposal of a second reservoir with a capacity of 4.6 MG to serve ultimate development, which will be located at the existing Coogan Reservoir and will have a low water line of 1,608 ft and a high water line of 1,648 ft.

San Diego County Water Authority Water Supply:

The ability of VWD to provide sufficient water to the proposed project over the next 20 years is linked to the ability of SDCWA to meet projected demands. SDCWA purchases water from Metropolitan and delivers potable water to its 24 member agencies, including VWD. SDCWA is the largest of Metropolitan's 26 member agencies in terms of deliveries, purchasing approximately 30% of all the water Metropolitan delivered between 1999–2000 (SDCWA Regional Water Facilities Master Plan).

As discussed above, SDCWA relied exclusively on water from Metropolitan in the past. In order to diversify its supply options, SDCWA entered into transfer agreements, began construction of the emergency storage project, and undertook aggressive conservation efforts. The purpose of these projects is to meet member agency demands, in the event that Metropolitan is unable to meet the SDCWA supply demands. These projects are discussed in more detail in SDCWA's 2005 UWMP.

Additional information about the status of SDCWA plans and programs is included in the *SDCWA Annual Water Supply Report*, approved in June 2004 and distributed to member agencies, the County of San Diego, and area cities. Two current infrastructure projects to meet future demands are identified in the Supply Report to meet future demands; (1) The All American Canal (ACC) and Coachella Canal (CC) lining projects and (2) planning for the desalinization of seawater. In addition, the Supply Report provides documentation of recent Colorado River supply activities that were not include in Metropolitan's 2003 Report.

Under the current schedule, the ACC and CC lining projects are expected to be completed in 2008. The ACC will yield 67,700 ac. ft per year and the CC lining project will yield 26,000 ac. ft per year. Of this amount 77,700 ac. ft per year will be available to SDCWA beginning in approximately 2008.

A seawater desalination project has been proposed consisting of a 50 MGD reverse osmosis desalination plant sited at the Encina Power Station in the City of Carlsbad. The project is anticipated to produce 56,000 ac. ft annually of new water supply generated from seawater. SDCWA anticipates the project to begin construction in 2009 and will likely be operational before the end of 2011.

The report also documents SDCWA's construction of a regional water treatment facility to increase the amount of treated water available to San Diego County. The Twin Oaks Valley Water Treatment Plant will produce up to 100 MG of treated water per day, enough water to supply up to 220,000 typical households each year. The project completed construction in April of 2008. Although this facility will not affect water supply, it will provide more filtering capacity and thus increase the amount of potable water available to be distributed to SDCWA's member agencies.

SDCWA is currently at a Level 1 Drought Watch due to the continuing drought and reductions in expected water supplies. However, at this level, SDCWA expects supply reductions in the range of 10%, which would not affect new potable water supply hookups. SDCWA has increased storage and local water supplies, which should enable it to continue providing planned levels of water service to its member agencies.

The area in which the proposed project is located is within the VWD 2005 UWMP, which was used to develop the SDCWA and Metropolitan UWMPs. Although the demand projections in the 2005 VWD UWMP do not account for the proposed development densification, the small amount of additional demand generated by the proposed project can accommodated in the SDCWA UWMP and, by extension, the 2005 Metropolitan Regional UWMP. The additional amount that would be necessary to support the project is equivalent to 0.28-acre-feet per day. Based on the 2005 VWD UWMP, the proposed project would result in an increase of 0.99% of

VWD's projected residential allotment of 10,132 acre-feet per year. The aggressive conservation efforts undertaken by VWD and the efforts by SDCWA to diversify its water supply sources increase the likelihood that water will be available to the project as contemplated by the plans. The Merriam WSA&V approved by VWD in June 2006 confirms this conclusion.

Metropolitan Water District. Two major sources of water supply for Metropolitan are the California Aqueduct and the Colorado River Aqueduct. The available supply from these sources is subject to climatic conditions, water transfers, storage programs, and lining projects. In an average year, from 2010 to 2030, there is a potential reserve and replenishment supply available to Metropolitan from these sources. The Metropolitan plan involves storing this potential reserve and replenishing supply for use in years with below average supply. Metropolitan's intent is to meet the demands of the member agencies for as long as possible and, except during extreme shortage conditions, it does not plan to implement an allocation plan that reduces deliveries to member agencies. Even if allocation is required, Metropolitan expects to be able to meet the basic water supply needs of its member agencies.

In March 2003, Metropolitan published *Report on Metropolitan's Water Supplies, A Blueprint for Water Reliability* (March 2003). The objective of the March 2003 Report was to provide the member agencies, retail water utilities, cities, and counties within its service area with water supply information for purposes of developing WSA&Vs. The March 2003 Report states that its approach to evaluating water supplies and demands is consistent with that used by Metropolitan in preparing its Regional UWMP. As do both SDCWA and VWD Metropolitan uses SANDAG's regional growth forecast in calculating regional water demands for the SDCWA service area. Use of the SANDAG regional growth forecasts are based on information obtained from the County of San Diego and area cities and ensure consistency between the UWMPs prepared for VWD, SDCWA, and Metropolitan.

Metropolitan is currently at Stage 2 under its Drought Management Plan, under which it may reduce water deliveries, buy temporary water transfers and increase conservation requirements. Stage 2 corresponds to both Level 1 Drought Watch and, potentially, Level 2 Drought Alert under the SDCWA model drought ordinance. At Stage 2, Metropolitan adopts a conservation target of 20%.

Finally, as a project design feature, the proposed project will strive for a 50% reduction of the energy embodied in water use through such features as low-flow appliances (including toilets, shower heads, and washing machines), a drought-tolerant landscape palette, weather-based irrigation controllers, and other water-conservation features. The biological open space preserve will reduce also water use otherwise attributable to the area. The incorporation of these water-efficiency and conservation features will reduce the water demand required to service the project site. It should be noted a purple pipe infrastructure for the use of recycled water will not be

included as an element of this project. VWD has indicated that purple pipe infrastructure is not located near the project site and is not readily available. As purple pipe infrastructure becomes more readily available in the future, the proposed project may use recycled water for landscaping.

Conclusions:

Water supplies necessary to serve the demands of the proposed project, along with existing and other projected future uses, as well as the actions necessary to develop these supplies, have been identified in the coordinated water supply planning documents prepared by VWD, SDCWA, and Metropolitan. The VWD, Metropolitan, and SDCWA are implementing plans that include projects and programs to ensure that the existing and planned projects in the VWD service area will have an adequate supply of water.

The 2006 Merriam WSA&V demonstrates and verifies that with development of the identified resources there will be sufficient water supplies over a 20-year planning horizon to meet the project's projected demand together with existing and other planned development within the VWD service area. Even with cutbacks related to the delta smelt and the continuing drought, the VWD, SDCWA, and Metropolitan drought management plans would be expected to provide for new water supply hookups in both the short and long term.

In addition, the findings presented in the WSA&V verify that there is sufficient water supply to serve the proposed projects and the existing and other planned projects in both normal and dry year forecasts. An adequate water supply is further outlined in the *Report of Metropolitan's Water Supplies, A Blueprint for Water Reliability March 2003*, which states that Metropolitan will have adequate supplies to meet dry-year demands within its service area over the next 20 years.

In addition, VWD has issued a Service Availability Letter for the proposed project (see Appendix U of the Merriam Mountains Specific Plan Draft EIR, dated August 2007). Collectively, the information included in the June 2006 WSA&V Report, supported by the 2005 VWD UWMP, 2005 SDCWA UWMP, and Metropolitan 2005 UWMP identifies a sufficient water supply and reliability to the VWD, now and into the future, including a sufficient water supply for the Merriam project.

Although RMWD was not required to prepare a WSA&V, it has issued a Service Availability Letter for the proposed project (see Appendix U of the Merriam Mountains Specific Plan Draft EIR, dated August 2007). Collectively, the information included in the 2005 draft RMWD UWMP, 2005 SDCWA UWMP, and Metropolitan 2005 UWMP identifies a sufficient and reliable water supply for RMWD, now and into the future, including a sufficient water supply for the 10 estate lots in the northern portion of the Merriam project.

The County of San Diego has analyzed the WSA&V and Service Availability Letters for the Merriam project, as well as current VWD, RMWD, SDCWA, and Metropolitan UWMPs. These relevant water supply documents do not identify any competing demands for water that would or might not be served if the Merriam project is approved. With the project's 50% reduction in the energy embodied in water use the project increase and standard demand being less than 1% of VWD residential supply the actual increase is likely to be even less. Service Availability Letters indicate that the proposed project's demand for potable water would be met by the applicable service providers. Therefore impacts would be less than significant.

Guideline 4: Insufficient Wastewater Treatment and Disposal Capacities Wastewater Treatment

A small portion of the project is already within the VWD sewer service boundary. The remainder of development on the project requires intra-district annexation to VWD Sewer Improvement Districts 5 and 6 for sewer service. The intra-district annexation consists of a request for sewer service to a parcel that is within the district and within the service area basin for water and does not require an intra-district annexation from any other agency or Local Agency Formation Commission (LAFCO) approval (VWD Annexation Procedures 2003). Estate lots located in the northern portion of the project site will utilize septic tanks. Therefore, the RMWD will not be providing wastewater services to the project site.

A technical memorandum was prepared by Kennedy/Jenks Consultants to study the impact the projected wastewater flows generated by the proposed project will have upon the wastewater collection and treatment facilities in the VWD. The projected average wastewater flows for the project site were generated based on the land uses identified in the *2002 Water, Wastewater, and Water Reclamation Plan Update* (2002 Master Plan Update), which relied on existing zoning information to assign different land use categories to the Merriam site. Utilizing the proposed land uses for the project site and the wastewater duty factors presented in the 2002 Master Plan Update, a second set of projected average flows were generated. These two wastewater projections can be summarized as follows: 2002 Master Plan Update Land Use with 2002 Duty Factors, as presented in the 2002 Master Plan Update and the proposed project land uses with 2002 Master Plan Update Duty Factors.

Based on the 2002 VWD Master Plan Update, the land uses identified for the project site in the 2002 Master Plan Update would generate 76,380 GPD of wastewater flow. However, based on the proposed project land uses, the proposed project would generate an average daily wastewater flow of 594,851 GPD. The proposed project would result in an increase of 0.52 MGD (518,471 GPD), which exceeds the 2002 Master Plan Update facilities allotted for the proposed project site (Kennedy/Jenks Consultants 2006). The Encina Wastewater Authority outfall is currently rated for a capacity of 36 MGD, of which the VWD has capacity rights of 7.54 MGD.

As a result of the proposed project generating 0.52 MGD of wastewater beyond the 2002 Master Plan Update allotment for the site, a technical memorandum was prepared by Kennedy/Jenks Consultants to analyze the impact additional flows from the project site will have upon existing VWD facilities. The study concluded that in order to accommodate the additional flow, several gravity main projects will need to be completed prior to any wastewater flow being generated from the proposed project. The proposed project will contribute to the expansion of the Encina Wastewater Authority solids/liquids/treatment facility directly through payment of Merriam Mountains share for the potential solids/liquids/treatment facility expansion and parallel land outfall sewer pipeline as determined in the Master Agreement with the developer, prior to issuance of grading permits. The ultimate agreement between VWD and the developer may include purchase of additional capacity by VWD, for which Merriam will be responsible in the form of purchases of excess capacity from another Encina member agency, or in the next treatment plant expansion. VWD will determine the appropriate method for providing capacity for Merriam flows and the Master Agreement will include a phasing plan that would determine the number of units that could be constructed over a period of time consistent with the improvements that need to be constructed to accommodate flows. VWD currently has 5 MGD of excess capacity at Encina and if Merriam develops in the near term (within the next 5 years), VWD may use that existing excess capacity to serve Merriam in the interim and additional capacity fees would go toward future improvements to accommodate the additional wastewater flows from Merriam and projects anticipated in the VWD Master Plan. VWD has already budgeted to purchase additional capacity at Encina in the 2021 ultimate time frame. This recommendation is made without the additional flows from Merriam. This purchase of additional capacity may need to be accelerated depending on timing of the Merriam project and would be subject to the Master Agreement. In summary, VWD would have options in accommodating the project, including the expedited construction of the parallel land outfall pipeline to the Encina Wastewater Treatment plant. In the event the parallel land outfall would need to be constructed, VWD and/or other entities would be the lead agency for construction of that facility and any environmental review documentation would be the responsibility of those entities. The proposed project would however be responsible for payment of additional fees that would be used to construct the parallel land outfall pipeline directly resulting from the additional wastewater flows from the proposed project. Conditions of approval for the project phasing will include VWD verification that sewer facilities are adequate and outfall capacity is available to ensure wastewater flows could be accommodated.

The Master Plan of Sewer for the proposed project (Dexter Wilson 2006) and Final Technical Memorandum Wastewater Flow Impact Report (Kennedy/Jenks 2006), provides information concerning projected sewage flows, existing facilities, proposed major facilities, on-site improvements and off-site improvements necessary to provide adequate sewer service to the project. There are a few existing sewer facilities in the vicinity of the project; however, in

addition to facilities identified on Figure 1.1-17, the following off-site sewer facility improvements will be necessary to serve the project:

- 2450 ft 15 in. gravity line along Twin Oaks Valley Road (identified as P-40 in the VWD 2002 Master Plan)
- 660 ft 15 in. gravity line along Twin Oaks Valley Road (identified as P-17 in the VWD 2002 Master Plan)
- 3240 ft 18 in. gravity line along Twin Oaks Valley Road (identified as P-3 in the VWD 2002 Master Plan)
- 5590 ft 18 in. gravity line along Twin Oaks Valley Road (identified as P-28 in the VWD 2002 Master Plan)
- 2690 ft 18 in. gravity line along Twin Oaks Valley Road (identified as P-24 in the VWD 2002 Master Plan)
- 360 ft 18 in. gravity line along Twin Oaks Valley Road (identified as P-37 in the VWD 2002 Master Plan).

The gravity lines listed will need to be constructed prior to flows being received from the proposed project and are included within the 2002 VWD Master Plan and Master Plan EIR (2002); however, the schedule for several of these pipelines will need to be expedited based on the project schedule.

The Master Plan of Sewer for the proposed project (Dexter Wilson July 2006) and *Final Technical Memorandum Wastewater Flow Impact Report* (Kennedy/Jenks November 2006), provides information concerning projected sewage flows, existing facilities, proposed major facilities, on-site and off-site improvements necessary to provide adequate sewer service to the project. The report identifies two additional improvements that were not included in the VWD Master Plan where the project would be required to contribute a fair share to construct the following: 5590, 2690, and 360 18 in. gravity line along Twin Oaks Valley Road (identified as P-24, P-28, and P-37 in the VWD 2002 Master Plan) and 7982 – 21 in. gravity line adjacent to Twin Oaks Valley Road (identified as P-M3 in the VWD 2002 Master Plan). The above-mentioned gravity lines will need to be constructed prior to flows being received from the proposed project and are included within the 2002 VWD Master Plan; however, the schedule of several of these pipelines may need to be expedited based on the project schedule.

The funding mechanism for the expansion of services and facilities may be ensured by Merriam connection fees and funding the improvements required to service the proposed project, which includes all require off-site improvements. The potential environmental impacts associated with master plan improvements are discussed in the 2002 Master Plan Update EIR. In addition, two

off-site sewer lines are proposed; a wastewater line will be constructed from the intersection of Del Roy/Twin Oaks Valley Road and continues north along Twin Oaks Valley Road, Deer Springs Road, and Sarver Lane to the proposed project site and an 800 ft pipe segment 79-82 (Segment P-M3) that would require upsizing from the existing 18 in. line to a 21 in. line located north of East Mission Road between Twin Oaks Valley Road and Vineyard Road (refer to Figure 1.1-17). Impacts for all environmental issues within the development area are addressed throughout this EIR. No separate or specific impacts would be associated with construction of wastewater facilities. In the initial stages of development the proposed project will enter into a water and sewer service agreement with VWD that will identify the extent and timing of improvements that need to be constructed to service the proposed project. Therefore, aside from installation of on-site wastewater conveyance facilities and upsizing of existing pipes identified in the CIP for VWD, no new wastewater treatment facilities or expansion of existing facilities would be required as a result of the proposed project. Impacts associated with improvements to be constructed by Merriam are analyzed in the EIR and impacts associated with VWD CIP improvements are addressed at a programmatic level in the VWD's Master Plan EIR. With the exception of on-site wastewater conveyance facilities and improvements along Deer Springs Road, Twin Oaks Valley Road, and Sarver Lane, no new wastewater pipeline facilities or expansion of pipeline existing facilities would be required as a result of this project, impacts would be less than significant. In addition, with the project's fee contribution prior to issuance of building permits, to the potential expansion of the Encina Wastewater Authority solids/liquids/treatment facility and parallel land outfall sewer pipeline as determined in the Master Agreement with the developer, other impacts to wastewater treatment and conveyance would be less than significant.

The Estate Residential Planning Area also located within the project site is serviced by the Rainbow Municipal Water District. Wastewater for the Estate Residential Planning Area however will not require services to be provided by Rainbow Municipal Water District due to septic tanks being constructed within each of the 10 lots.

4.1.2.4 Cumulative Impact Analysis

Impacts associated with construction of the Proposed Project as well as related cumulative projects would be considered cumulatively significant for the following public services: potable water, wastewater, schools, police, fire, solid waste, libraries, natural gas and electricity if the service provider has indicated that it would be unable to serve the proposed project with its current staffing and/or infrastructure and no future funding sources are in place and/or levels of service would fall below those defined in the applicable planning documents.

To determine the potential cumulative impacts to public services and utilities two different approaches were used. A project list approach as defined in Section 15130(A) of the CEQA

Guidelines for potential cumulative effects to schools, police, fire, solid waste, libraries, natural gas, and electricity. A forecast method was utilized for water and wastewater services as defined in Section 15130(B) of the CEQA Guidelines. The forecast method is appropriate in relation to water and wastewater services because the list of projects approach would be less accurate and because water/wastewater districts do not forecast demand on a project-by-project basis.

In addition to the proposed project, a number of other residential projects are currently under environmental review, as listed in Tables 1.1-4. These future projects are primarily residential developments, as well as other projects such as schools, and commercial uses. Several of these related projects either have not completed environmental documents or have found utilities/service system impacts to be less than significant. Several projects identified significant but mitigable impacts to public services and utilities. For example, the proposed project and cumulative project numbers 9 and 15 have the possibility to interfere with emergency response plans during construction phases; however, since each project would result in mitigation measures that provide traffic control plans resulting in coordinating with the city engineers and the fire departments, these potential cumulative impacts would be reduced to less than significant. As seen in Table 1.1-5, an additional 63 cumulative projects were identified during public review of the DEIR. The projects are located within the City of San Marcos (19 projects), City of Escondido (12 projects), and County of San Diego (32 projects). As identified below, each project would be required to obtain service agreements and/or commitments to serve for public services (schools, police, fire, solid waste, libraries, natural gas, and electricity) prior to granting of building permits for all projects approved by area lead agencies. The cumulative projects would not have a significant cumulative impact on public services and utilities.

As discussed above in Guidelines 1 through 4, it was determined that implementation of the Proposed Project would not have a significant impact on police protection, gas and electric service, solid waste, libraries, or schools. Service agreements, funding mechanisms, or other commitments to serve projects would be required prior to granting of building permits for all projects approved by area lead agencies, and a number of standard procedures exist (e.g., providing the service, contributing to pro-rata share, participating in an assessment district), the cumulative projects would not have a significant cumulative impact on those public services and utilities. It should be noted per correspondence with the County of San Diego, Sheriff Department, the proposed project is not anticipated to have a cumulative impact on law enforcement facilities (County of San Diego, Sheriff Department July 2009).

Water Demand: Water demand from cumulative projects within the VWD service area may or may not be anticipated in the VWD Master Plan depending on whether or not projects propose or are approved for densities in excess of that anticipated in the SANDAG land uses, which were utilized to determine the water demand in the VWD Master Plan. To assess the potential for

cumulative impacts in relation to water demand, the forecast method was used as identified in Section 15130(B) of the CEQA Guidelines. The forecast method is appropriate in relation to water demands because the list of projects approach would be less accurate and because VWD does not forecast demand on a project-by-project basis. Water demand is evaluated by each individual service district and through project-specific service agreements negotiated as individual projects are constructed. This is consistent with the way projects are developed and actual demand is generated in response to market conditions. VWD regularly updates the master plan to reflect ongoing changes in project entitlement and the timing of project construction for all projects for which VWD provides service.

Although the forecast method was used for the cumulative analysis of water demand as noted above and project-specific service agreements are the trigger used by VWD to determine actual demand, it is worth noting that several projects on the cumulative projects list involve General Plan Amendments within the VWD service area and these projects may not be anticipated in the VWD Master Plan. These projects are located in the City of San Marcos and include Fenton (#78), San Marcos Creek Specific Plan (#71), Palomar Station (#76) and University District (#132). The Fenton project proposes a reduction in density while the remaining projects proposed density increases. It is unknown at this time whether these projects will be approved and/or constructed and specific water demand for these projects would be determined by VWD at the time project-specific agreements are negotiated.

As seen in Section 4.1.2.2, VWD has indicated that water supply is available to adequately serve the project site with the required improvements included in the EIR. Over time, water demand would approach that projected in the Master Plan. Therefore VWD, as part of the entitlement process for those projects, will have the opportunity to consider the projects in context of the VWD Master Plan projections and no feature of the Merriam Mountains project such as sizing and/or construction of upstream facilities should affect water supply and/or infrastructure requirements. Therefore, cumulative impacts on water supply would be less than significant.

Wastewater: Cumulative effects for wastewater treatment capacity that would be serviced by VWD at the Encina Wastewater Treatment Plant are determined through buildout projections in the VWD 2002 Master Plan. Demand is evaluated district wide and through project-specific service agreements negotiated as individual projects are constructed. This is consistent with the way projects are developed and actual demand is generated in response to market conditions. VWD has indicated that treatment capacity would be available to adequately serve projects in the service area by exercising its discretion of either accelerating the Encina Treatment Plant expansion, purchase of capacity from another member agency, or using its existing excess capacity. VWD would accommodate future development with provisions for adequate services. Over time, wastewater services may increase with area population growth, new housing

developments, or expansion of the VWD service area. While the effect may accelerate the timing of the facility upgrades, including dual outfall construction, these upgrades could be planned and would not result in inability for VWD to provide service. Assuming appropriate planning and timing, the cumulative projects would not contribute to a significant cumulative impact on wastewater treatment capacity. As noted above, although the VWD 2002 Master Plan is based on General Plan buildout projections, demand for wastewater treatment capacity is evaluated district wide and through project-specific service agreements, it is worth noting that several projects on the cumulative projects list involve General Plan Amendments within the VWD service area and these projects may not be anticipated in the VWD 2002 Master Plan. These projects are located in the City of San Marcos and include Fenton (#78), San Marcos Creek Specific Plan (#71), Palomar Station (#76) and University District (#132). The Fenton project proposes a reduction in density while the remaining projects propose density increases. It is unknown at this time whether these projects will be approved and/or constructed and specific wastewater treatment capacity requirements for these projects would be determined by VWD at the time project-specific agreements are negotiated.

4.1.2.5 Growth-Inducing Impacts

As discussed in the Growth Inducement Technical Report (Appendix S to the Merriam Mountains Specific Plan Draft EIR, dated August 2007), infrastructure for water and sewer services would be built per the VWD Master Plan, which will provide infrastructure for growth that has already been planned for by both the local jurisdictions and the VWD. Infrastructure for water services and wastewater services will also be constructed that is not included in VWD or RMWD Master Plan. The water line and gravity lines being constructed off site that are not consistent with the VWD or RMWD Master Plan will not have additional capacity to accommodate significant growth along these pipeline corridors. The infrastructure would be constructed to meet the project needs and would not result in an extension of large-capacity pipeline network that could then facilitate easy connections by other planned developments within the area. Therefore these new facilities may accelerate the planned growth for this area; however, it is not inducing additional growth that has not been planned.

Additionally, the project would contribute development fees to the DSFPD and would contribute fees as appropriate to ensure that other public services are adequately provided. These infrastructure and public service improvements would not induce growth that would significantly burden existing community services, but would rather help provide financing for the VWD to implement its Master Plan, and would help improve the overall provision of public services within the North County East MSA consistent with existing plans. In addition, payment of fees ensures a project's fair share contribution to help maintain adequate school facilities and levels of service. Services provided by school or fire/police stations will be based upon fees from the

project and therefore, no new schools or fire/police stations are proposed that would provide addition service availability for unplanned growth. Impacts would be less than significant.

Summary of Impacts

The proposed project would generate a need for additional public services and utilities but with incorporation of specific project design features, the project will result in the efficient use of resources. In addition, the improvements required beyond those anticipated by the providers and included in their master plans have been incorporated as part of the proposed project and none of the significance guidelines have been exceeded. Therefore, impacts to Public Services and Utilities from development of the proposed project are less than significant.

4.1.3 Recreation

4.1.3.1 Discussion of Existing Conditions Relating to Recreation

The County of San Diego's Parks and Recreation Department provides programs and activities that relate to the recreational ideals of the community. Parks and Recreation provides maintenance, acquisition, and development of recreation facilities, and includes local and regional parks, fishing lakes, community centers, special use facilities, ecological preserves, and open spaces. There are 90 facilities covering more than 40,000 ac., which are open year round and are operated and maintained by County of San Diego staff, volunteers, and service contracts (San Diego, County of 2006).

There are no existing designated recreational resources located within the project site. Meadow Lake Country Club is located approximately 2 mi. to the east of the project site within the City of Escondido. The club includes a golf course and is open seven days a week. Vista Valley Country Club is located approximately 1.25 mi. northwest of the project site and includes a golf course, tennis, social and dining facilities. Lawrence Welk Resort Center which includes a golf course is located approximately 0.25 mi. to the east

Walnut Grove Park is located approximately 1.5 mi. southwest of the project site within the City of San Marcos along Sycamore Avenue to the east of Twin Oaks Valley Road. The 39 ac. park includes a large grass open play area, two horse arenas, picnic shelters, and 2 tot lots.

The County of San Diego's General Plan Recreation Element identifies the standards for park and recreational facilities within the County and is identified below:

- 0–5 ac. of play lots and vest pocket parks per 1,000 people
- 1–10 ac. of neighborhood parks per 1,000 people

- 1–10 ac. of community parks per 1,000 people
- 15–20 ac. of regional parks per 1,000 people.

Section 3 of the County of San Diego’s General Plan Public Facilities Element discusses Parks and Recreation and in particular the Park Lands Dedication Ordinance (PLDO). The County implemented the Quimby Act by adopting the PLDO. The Quimby Act (Government Code 66477 et seq.) authorizes local landowners to dedicate land or pay in lieu fees for local parks and prevents the County from requiring subdivision development to provide local park acreages at the goal level of 15 ac. per 1,000 residents. Section 810.106 of the PLDO identifies the amount of land to be dedicated or fee in lieu thereof to be paid, as shown in Table 4.1-4. This ordinance states that it is intended that one-fifth of the requirements stated in the Recreation Element of the General Plan or 3 ac. per 1,000 population be provided by new development pursuant to the provision of this section unless the amount of existing neighborhood and community park acreage in the unincorporated areas of the County exceeds this standard. Therefore, the proposed project may be required to pay fees per the PLDO, which will be determined upon issuance of building permits.

The County’s General Plan incorporates by reference the Community Trails Master Plan (CTMP). The CTMP includes individual community trails; maps; design and management guidelines; and community specific goals, policies and implementation strategies in regards to trails.

4.1.3.2 Identification and Discussion of Guidelines for Determination of Significance

A significant impact would result if the project resulted in:

- 1) Use of existing neighborhood or regional parks or other recreations facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- 2) An insufficiency of on-site recreational opportunities.

Guideline Sources

The identified guidelines are based on the Appendix G of the State CEQA Guidelines, County of San Diego’s General Plan Park Standards, County of San Diego’s Parkland Dedication Ordinance, and National Recreation and Park Association Standards. The thresholds are intended to ensure that adequate park and recreational opportunities are available for local and regional residents.

4.1.3.3 Analysis of Project Effects and Determination of Significance

Guideline 1: Use of Existing Recreational Facilities that would Cause Substantial Physical Deterioration

Existing recreational facilities in the vicinity consist of Meadow Lake Country Club, Vista Valley Country Club, Lawrence Welk Resort, and Walnut Grove Park. The project proposes to provide 18.3 mi. of trails and 29 ac. of improved parks including community, local, neighborhood, and pocket parks. Figure 1.1-12A shows the overall park plan, Figures 1.1-12B through 1.1-12F depict typical plans for the improved parks and Figure 1.1-12G shows the location of the proposed trails and trailheads. Since the project provides adequate recreational facilities (see Guideline 2, below), there would not be substantial deterioration of existing (off-site) facilities.

a. Natural Parks

As previously referenced in Chapter 1 Project Description, the project proposes to include four natural park areas which amount 60.2 ac.

b. Community Parks

As previously referenced in Chapter 1, Project Description, one community park area has been proposed for the project and would consist of a community recreation area and an athletic field area; amounting to 10.06 ac. The community park area would be located along Merriam Mountains Parkway in the southeastern portion of Neighborhood 5.

c. Other Parks

As previously referenced in Chapter 1, Project Description, the project proposes to develop one meadow park, four 1 ac. parks, nine .5 ac. parks, and seventeen pocket parks that would be located within the proposed neighborhood development areas. The project will also include an equestrian staging area that will be located in the northern portion of the project site, adjacent to the eastern portion of Twin Oaks Valley Road, as seen in Figure 1.1-12G. The staging area will be approximately 2 acres and include parking for equestrian trailers.

d. Trails

On-Site Trails: As previously referenced in Chapter 1, Project Description, two types of trails are proposed: roadside pathways and multiuse trails (Figure 1.1-12B, Conceptual Trail Plan). The roadside pathway trails consists of 4.5 mi. of an 8-foot-wide decomposed granite trail that follows the entire western edges of Merriam Mountains Parkway and Meadow Park Lanes,

joining at the center of the community. These trails would link all neighborhoods together and serve as connections to a future regional trail proposed for Deer Springs Road. The multiuse trail consists of 13.8 mi. of trails for pedestrians, equestrians, and bicyclists (7.7 mi. of which are existing dirt roads, 1.8 mi. would be located on paved utility roadways, and 4.5 mi. on soft surfaces).

Off-Site Roadway Improvement Trails: The proposed project would include widening Deer Springs Road from the existing two-lane roadway to a four-lane Major Road from I-15 to Twin Oaks Valley Road. Consistent with the four-lane Major Road classification requirements, a 10-foot-wide recreational trail will be provided between the shoulder and limits of the proposed right-of-way. The trail will provide connections to the regional trail network from the City of San Marcos located to the south and the Hidden Meadows trail network to the east of I-15 (see Figure 1.1-12G). A portion of the trail width will be reduced to 5 feet for approximately 600 feet adjacent to the proposed cut-slope to accommodate the roadway design. The trail along Deer Springs Road will be located along the northern portion of Deer Springs Road between Mesa Rock Road and Meadow Park Lane and will transition to along the southern portion of Deer Springs Road. The trail will then continue along the eastern portion of the roadway to provide a connection to the existing trail system along Twin Oaks Valley Road within the City of San Marcos. An equestrian trail crossing will be provided at the signalized Meadow Park Lane/Deer Springs Road intersection to offer connections with the on-site equestrian trail network. The City of San Marcos Trail Plan northern limit is located at the intersection of Twin Oaks Valley Road/Deer Springs Road, to the south of the project site (City of San Marcos Trails Master Plan Implementation, 1995). The proposed project has been designed to not interfere with the ability for implementation of the City of San Marcos Trail Plan in context of a regional plan. Therefore, the proposed off-site roadway improvements would be completed within the existing right-of-way and will be consistent with both the City of San Marcos Trail Plan and regional trail plans that will provide a maintained trail network that does not currently exist to facilitate connections to existing and planned trails networks.

The proposed project would include a total of 33 improved parks that will provide recreational opportunities to the residents of Merriam. The project would not increase the use of existing neighborhood or regional parks because adequate on-site parks have been provided in accordance with that recommended in the General Plan. The County PLDO requires the proposed project to provide 22.8 ac. of improved parks (with each individual park being at least 0.5 ac. in size) (refer to Table 4.1-5). The project would develop 14 public parks that are 0.5 ac. in size or greater. The total acreage of these parks amounts to approximately 18.6 ac. As these parks would be dedicated to the County they would be public parks available to the surrounding community and other patrons in addition to the Merriam residents. The project would also include 17 smaller parks that are less than 0.5 ac. in size; a total of 4.19 ac. of these smaller parks

would be developed by the proposed project. In addition to developed parks the project proposed 60.2 ac. of natural parks. The total acreage of proposed park areas would result in approximately 88.83 ac. to serve the recreational needs of the residents of Merriam (see Appendix C of this EIR).

Since the total proposed acreage of the publicly dedicated park lands is 0.5 ac. less than that required by the County's PLDO the applicant will pay partial park fees to the County in accordance with the Ordinance. The proposed project therefore includes recreational facilities and results in fee payments that will meet the requirements set forth by the County PLDO. Therefore, the proposed development would not cause substantial physical deterioration of existing recreational facilities. Impacts would be less than significant.

Guideline 2: An insufficiency of on-site recreational opportunities

The Merriam project will provide 1,729 ac. of open space areas throughout the proposed project boundary. Within the 1,729 ac., the project proposes to preserve 1,192 ac. for Biological Open Space purposes, and 537 ac. for other open space uses. The Biological Open Space area would include a contiguous block of land located in the northern portion of the project area north of Neighborhood 5, and south and southwest of the proposed estate lots (with the exception of the two northern access road amounting to 60 ac.). Other open space areas within the project site would consist of 537 ac. of fuel treatment, natural, parks; trails; internal RPO wetlands; water quality basins; and isolated natural open space areas.

The proposed parks are within the identified development area for the Merriam project. Impacts for all environmental issues within the development area are addressed throughout this EIR. No separate or specific impacts would be associated with construction of specific parks and recreation facilities. No additional impacts would result.

4.1.3.4 Cumulative Impact Analysis

The project provides recreational facilities in accordance with PLDO, as would the cumulative projects located within the County (see Tables 1.1-4 and 1.1-5). Smaller cumulative projects located within the County of San Diego would mostly be making the PLDO contributions for Department of Parks and Recreation to use for facilities. With the actual construction and dedication of public parks and trails as a part of the project, the cumulative projects would be able to use the provided facilities and there would not be an adverse affect on recreational facilities in the vicinity. Therefore, no cumulative impacts would result.

4.1.3.5 Growth Inducing Impacts

Proposed park uses provided by the project for public use would be 20.39 ac. for improved parks and 58.7 ac. for natural parks. The total amount of public park land required is 22.8 ac. As discussed in the Growth Inducement Technical Report (Appendix S to the Merriam Mountains Specific Plan Draft EIR, dated August 2007), it is estimated that 750 du could be induced and therefore an additional 2 to 3 ac. would be needed in the area (based on 2.5 individuals/dwelling unit and PLDO standard of 3 ac./1,000). The project is providing recreational facilities in accordance with PLDO, as would other projects that have been induced. However, the smaller induced projects would mostly be making the PLDO contributions. With the actual construction and dedication of public parks and trails as a part of the Merriam project, the induced projects would have an opportunity to use the new public facilities. While the area would be short of the PLDO goal, there would be a substantial improvement in the availability of facilities and therefore induced growth would not be expected to create an adverse affect on recreational facilities in the vicinity. No growth inducing impacts would result.

Summary of Impacts

No significant impacts to recreational facilities or the environment from the construction of recreational facilities have been identified.

4.2 Effects Found Not Significant During Initial Study

The Initial Study identified that potential impacts could result to each environmental issue area listed in the Initial Study (see Appendix A to the Merriam Mountains Specific Plan Draft EIR, dated August 2007), which are discussed in Chapter 2, 3, and 4 of this EIR. A Population and Housing section was not provided in the EIR because the threshold from the Initial Study that warrants potential impacts from the proposed project is associated with growth inducement impacts. A Growth Inducement Technical Report was prepared (see Appendix R of the Merriam Mountains Specific Plan Draft EIR, dated August 2007) to address these potential impacts and a summary of the potential growth inducement impacts are provided in the Chapters 2, 3, and 4 of this EIR under each issue area addressed. In addition, a general overview of Population and Housing in relation to the proposed project is provided below.

Merriam proposes to provide a variety of housing opportunities in a region where housing is in short supply. The project will include 2700 dwelling units and proposes to voluntarily provide 10% of its residential units as affordable housing. The 270 proposed affordable units would serve populations typically defined as eligible for affordable housing. Providing housing in the San Diego region is an important project element that directly addresses the residential land shortages identified by the San Diego Association of Governments (SANDAG) in its most recent forecasts

for the region. The San Diego region is projected to grow by more than a million individuals, resulting in more than 310,000 additional jobs by 2020. In order to meet the needs of the projected population increase, 365,000 new homes would need to be constructed, which is equivalent to an average of about 18,000 homes per year, which will need to be constructed between 2007 and 2020. The existing local land use plans and policies only provide the capacity for approximately 260,000 new homes, which results in a shortage of 100,000 homes for the San Diego region. The land use shortage for residential homes is a result of planned development for vacant land being designated for single family homes on large lots, in comparison to single family homes on smaller lots, condominiums, and apartments that could be constructed in order to meet the housing shortage. According to SANDAG approximately 8% (about 2,500 ac.) of the remaining 31,500 ac. of vacant land in the eighteen cities within the San Diego region is planned for multifamily use (SANDAG San Diego Regional Growth Management Strategy, Solving the San Diego Region's Housing Crisis, July 2001).

The housing supply shortage as noted above has resulted in long commutes for many individuals with jobs in the San Diego region that live in western Riverside County. It has been estimated that approximately over 40,000 individuals (approximately 3% of individuals employed in San Diego) live outside of the area and therefore commute to San Diego for employment opportunities. The majority of these individuals live in the surrounding adjacent counties, with nearly half (approximately 18,640 commuters) commuting to the San Diego region from Riverside County (SANDAG Commute Characteristics San Diego Region, December 2004). I-15 has experienced the largest increase in vehicle trips of any freeway in San Diego County, most likely due to the increased commuters from Riverside County. In 1988, I-15 included approximately 196,000 cars per day. It has been projected that by 2020 I-15 will carry approximately 330,000 vehicles, which is an increase of 17% from 2006. The approval of the proposed project would provide housing opportunities to meet the housing shortage identified by SANDAG along with providing housing opportunities for workers in closer proximity to employment opportunities in the San Diego region.

The CEQA Appendix G Checklist questions ask two questions related to population and housing: (1) Will the project induce substantial population growth in an area, either directly or indirectly; and (2) Will the project displace substantial numbers of people or residences, necessitating the construction of replacement housing elsewhere? The first question relates to the project's growth inducing nature, therefore this issue is discussed in the Growth Inducement Technical Report (see Appendix S to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). A summary of the potential growth inducement impacts are provided in the Chapters 2, 3, and 4 of this EIR under each issue area addressed. The second question relates to displacement. The project site does not currently support housing; therefore substantial numbers of existing housing would not be displaced. Due to the fact that no housing or land use exists on

the site, displacement of a substantial number of people would not occur as a result of the project.

In summary, implementation of the project would not result in any adverse impacts with respect to population and housing. Beneficial affects would include providing 2,700 dwelling units with a range of housing types in an area that has been identified with an existing housing shortage.

A Growth Inducement Technical Report was prepared to address these potential impacts and a summary of the potential growth inducement impacts are provided in the Chapters 2, 3, and 4 of this EIR under each issue area addressed. Therefore, a Population and Housing section was not provided in the EIR. All other environmental issues categories have been addressed in this EIR. A complete copy of the Environmental Initial Study is included as part of the Notice of Preparation (see Appendix A of the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

TABLE 4.1-1
California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 points	Not Considered Significant
40 to 59 points	Considered Significant unless either the Land Evaluation or the Site Assessment subscores are each greater than or equal to 20 points.
60 to 79 points	Considered Significant unless either the Land Evaluation score or the Site Assessment subscore is less than 20 points.
80 to 100 points	Considered Significant.

TABLE 4.1-2
State Farmland Mapping and Monitoring Program Farmlands

Agricultural Classification	Planned Land Use			
	Developed	OS Preserve	OS Other	Total
On Site				
Statewide Importance	0.100	0	0	0.100
Unique	0.751	2.050	0.798	3.599
Local Importance	2.575	7.308	0.503	10.385
County and Unique	13.325	0	2.715	16.039
County and Local Importance	14.893	0	3.727	18.620
County	148.221	43.022	262.222	453.466
On-Site Subtotal	179.865	52.38	269.965	502.21
Off Site				
Unique	0.065	N/A	N/A	0.065
Local Importance	0.100	N/A	N/A	0.100
County and Unique	0.00002	N/A	N/A	0.00002
County	0.00003	N/A	N/A	0.00003
Off-Site Subtotal	0.165	N/A	N/A	0.165
Total	180.030	52.38	269.965	502.375

Note:

The remainder of the land within the project site is designated by the State of California as consisting of Urban and Built-Up Land (2.32 ac.) and Other Land (1,822.472 ac.) categories, which are not considered important farmland categories and therefore were not included in this table.

TABLE 4.1-3
Projected Student Generation

School District/Residential Unit Type	Project Phase	# of Units Per Phase	Grade Level	Generation Factor (Students/Unit)	Elementary (K-5)	Middle School (6-8)	High School (9-12)	Total Students
<i>San Marcos School District (K-12)</i>								
Single-Family Detached Dwelling Units (Single-Family)	Neighborhood 3 (Phase II)	160						
			K-5th	0.2757	44			44
			6th-8th	0.0999		16		16
			9th-12th	0.097			16	16
	Neighborhood 4 (Phase III)	25						
			K-5th	0.2757	7			7
			6th-8th	0.0999		2		2
			9th-12th	0.097			2	2
	Neighborhood 5 (Phase IV)	276						
			K-5th	0.2757	76			76
			6-8th	0.0999		28		28
			9th-12th	0.097			27	27
Multifamily Attached (Variable Residential Housing)	Neighborhood 2 (Phase II)	524						
			K-5th	0.2005	105			105
			6th-8th	0.1046		55		55
			9th-12th	0.091			48	48
Total		985			232	101	92	425
<i>Escondido School District (K-12)</i>								
Single-Family (Attached)	Neighborhood 3 (Phase II)	92						
			K-5th	0.1566	14			14
			6th-8th	0.0482		4		4

TABLE 4.1-3 (CONT.)
Projected Student Generation

School District/Residential Unit Type	Project Phase	# of Units Per Phase	Grade Level	Generation Factor (Students/Unit)	Elementary (K-5)	Middle School (6-8)	High School (9-12)	Total Students
			9th-12th	0.19			17	17
	Neighborhood 4 (Phase III)	346						
			K-5th	0.1566	54			54
			6th-8th	0.0482		17		17
			9th-12th	0.19			66	66
	Neighborhood 5 (Phase IV)	254						
			K-5th	0.1566	40			40
			6th-8th	0.0482		12		12
			9th-12th	0.19			48	48
Multifamily	Neighborhood 1 (Phase I)	270						
			K-5th	0.3926	106			106
			6th-8th	0.2148		58		58
			9th-12th	0.11			30	30
Variable Residential Housing (Single Family Detached)	Neighborhood 1 (Phase I)	743						
			K-5th	0.1931	143			143
			6th-8th	0.1156		86		86
			9th-12th	0.11			82	82
Total		1,705			358	177	243	778
Bonsall School District								
Single-Family	Estate Lots (Phase III)	10						
			K-8th	0.485		5		5
Multifamily		None		N/A				
Total		10						5
Student Generation Per Project Phase								
Escondido School District	Phase I							505

TABLE 4.1-3 (CONT.)
Projected Student Generation

School District/Residential Unit Type	Project Phase	# of Units Per Phase	Grade Level	Generation Factor (Students/Unit)	Elementary (K-5)	Middle School (6-8)	High School (9-12)	Total Students
Escondido School District and San Marcos School District	Phase II							319
Escondido School District, San Marcos School District and Bonsall School District	Phase III							153
Escondido School District (K-12) and San Marcos School District	Phase IV							231
Total Student Generation								1208
Student Generation Per Grade Level and District								
<u>Elementary (K-5)</u>								
San Marcos School District (K-5)								232
Escondido School District (K-5)								358
Total (K-5)								590
<u>Middle School (6-8)</u>								
San Marcos School District (6-8)								101
Escondido School District (6-8)								177
Total (6-8)								278
<u>Bonsall (K-8)</u>								
Bonsall School District (K-8)								
Total (K-8)								5
<u>High School (9-12)</u>								
San Marcos School District (9-12)								92
Escondido School District (9-12)								243
Total (9-12)								335

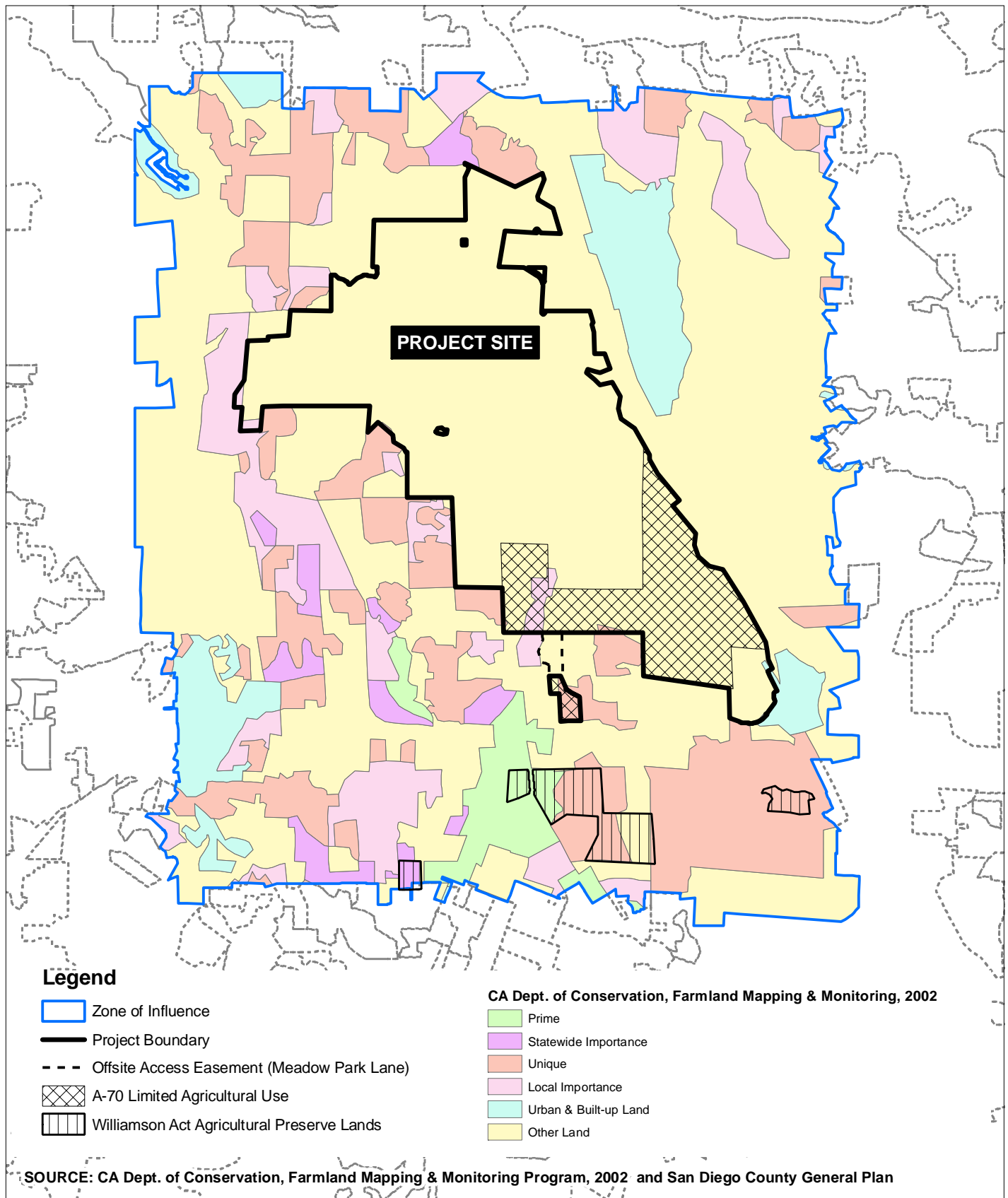
TABLE 4.1-4
PLDO Park Land Requirements

County Occupancy Rate (Persons per Dwelling Unit)	Square feet to be dedicated per dwelling unit or lot, whichever is greater
2.82	368.26

TABLE 4.1-5
Merriam Park Land Requirements

PLDO Occupancy Rate	Project Proposed Dwelling Units	Proposed Population	PLDO Park Land Dedication (3ac/1,000 persons)
2.82 persons/du	2,700 du	7,614	22.8 ac

INTENTIONALLY LEFT BLANK



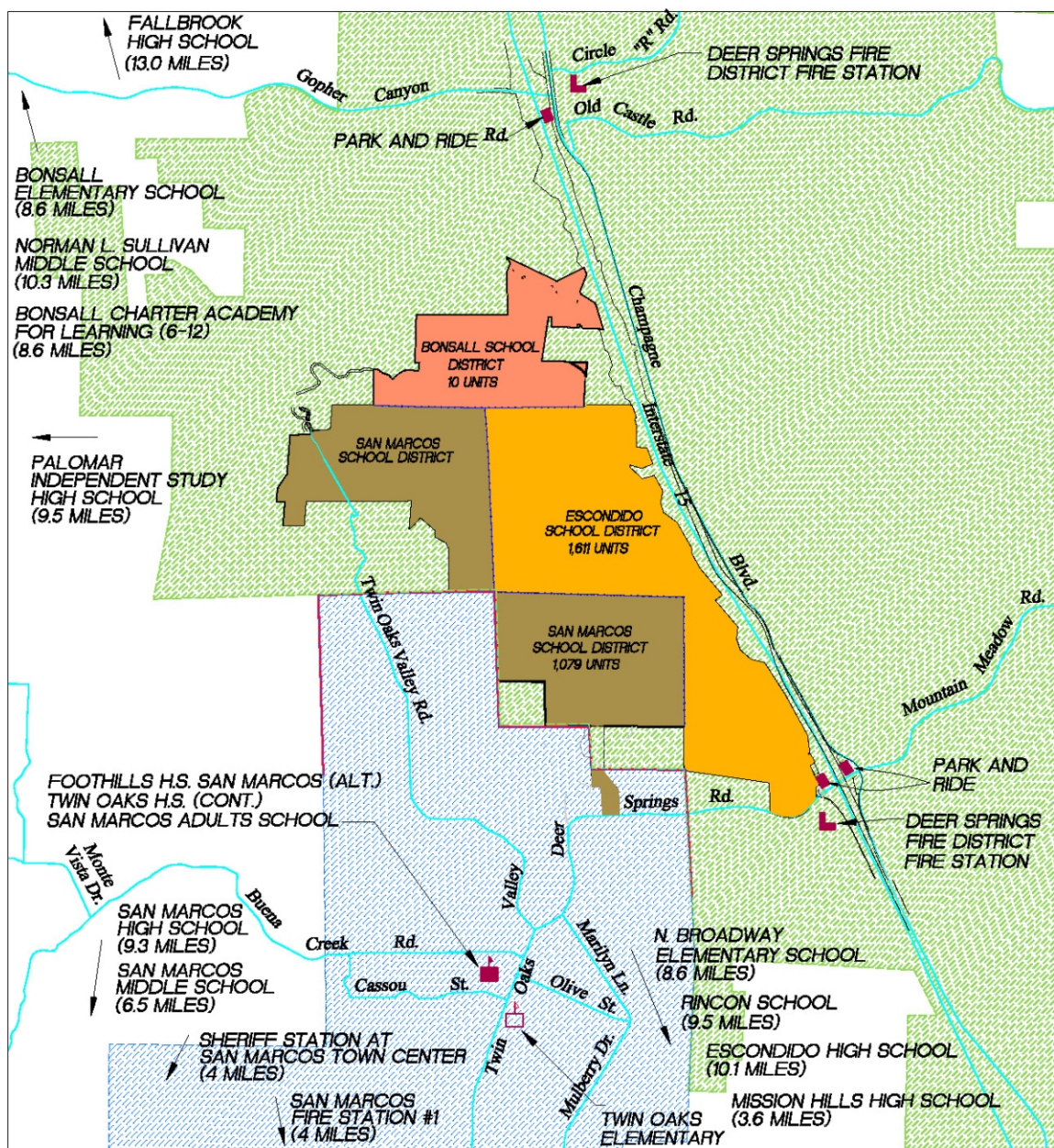
Important Farmlands Areas

**MERRIAM MOUNTAINS
SPECIFIC PLAN EIR**

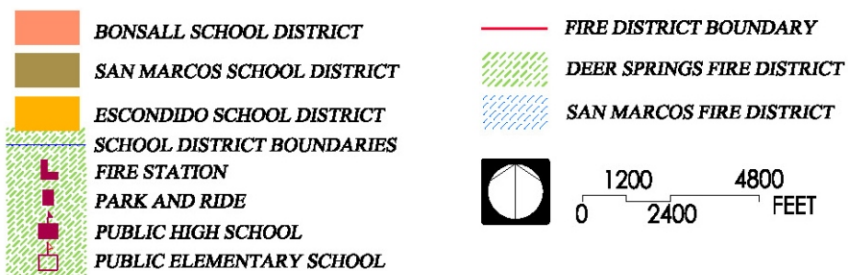
0 2,000 4,000 8,000
Feet



**FIGURE
4.1-1**



LEGEND



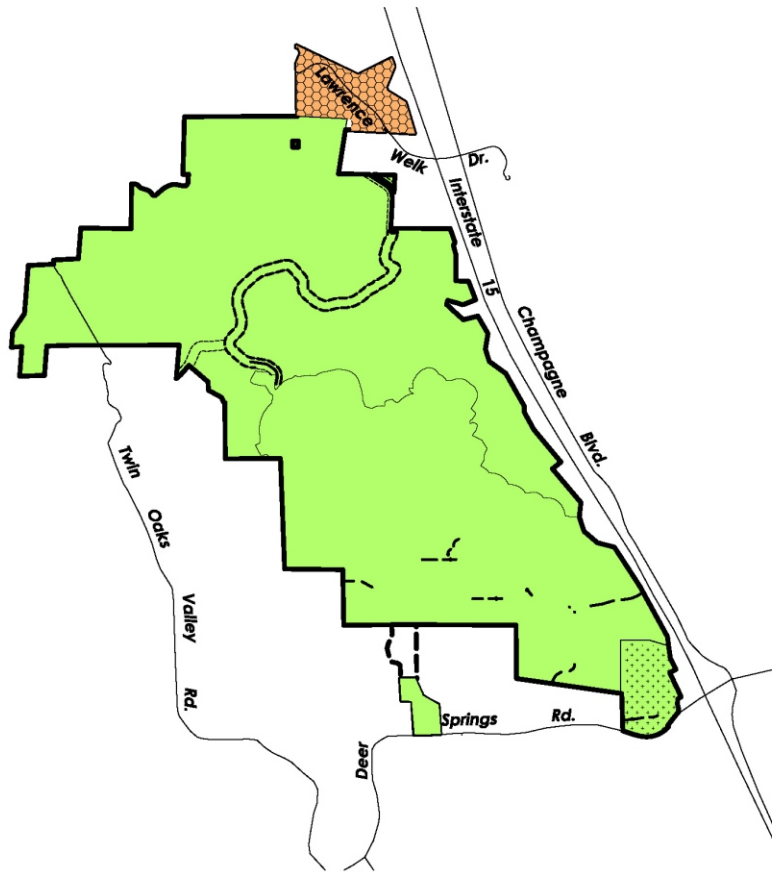
SOURCE: FUSCOE ENGINEERING

Existing Public Services

FIGURE
4.1-2

MERRIAM MOUNTAINS
SPECIFIC PLAN EIR





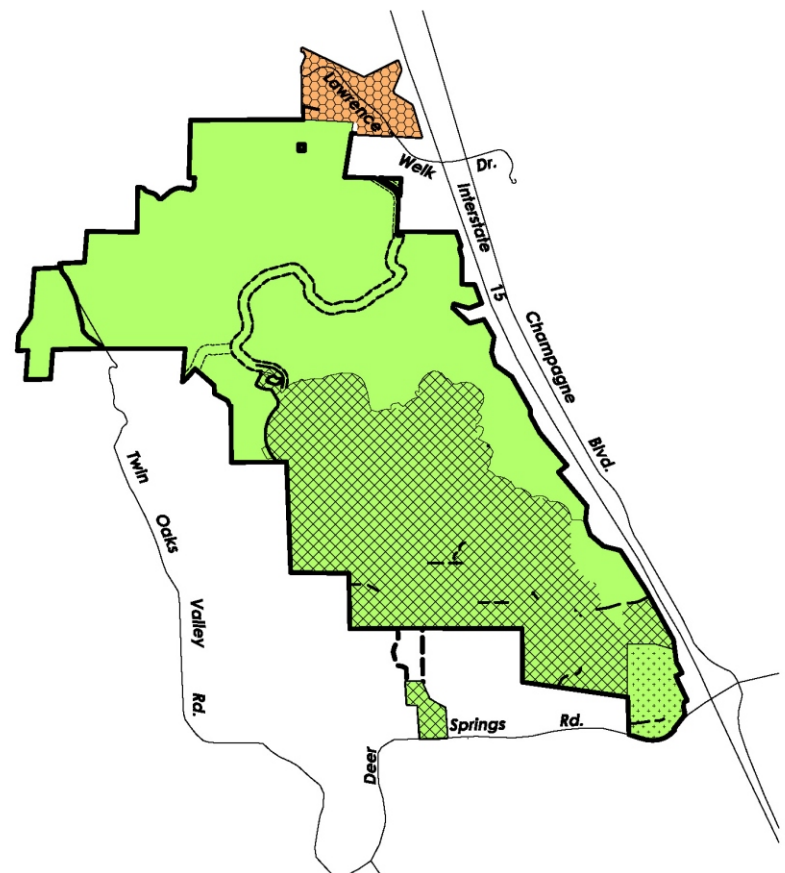
WATER DISTRICTS

- VALLECITOS WATER DISTRICT
- RAINBOW MUNICIPAL WATER DISTRICT

SANITATION DISTRICTS

- VALLECITOS WATER DISTRICT
- RAINBOW MUNICIPAL WATER DISTRICT

EXISTING



WATER DISTRICTS

- VALLECITOS WATER DISTRICT
- RAINBOW MUNICIPAL WATER DISTRICT

SANITATION DISTRICTS

- VALLECITOS WATER DISTRICT
- RAINBOW MUNICIPAL WATER DISTRICT
- SEWER DISTRICT SERVICE AREA

PROPOSED

Source: Fuscoe Engineering

Water & Sewer District Boundaries

**MERRIAM MOUNTAINS
SPECIFIC PLAN EIR**

FIGURE
4.1-3



NFPA 1142 METHOD WITH 35 MPH AVERAGE SPEED

RESPONSE TIME = T = 0.65 + XD

WHERE:

0.65 = ACCELERATION / DECELERATION FACTOR

X = AVERAGE SPEED FACTOR = 60 / AVERAGE SPEED (MPH)

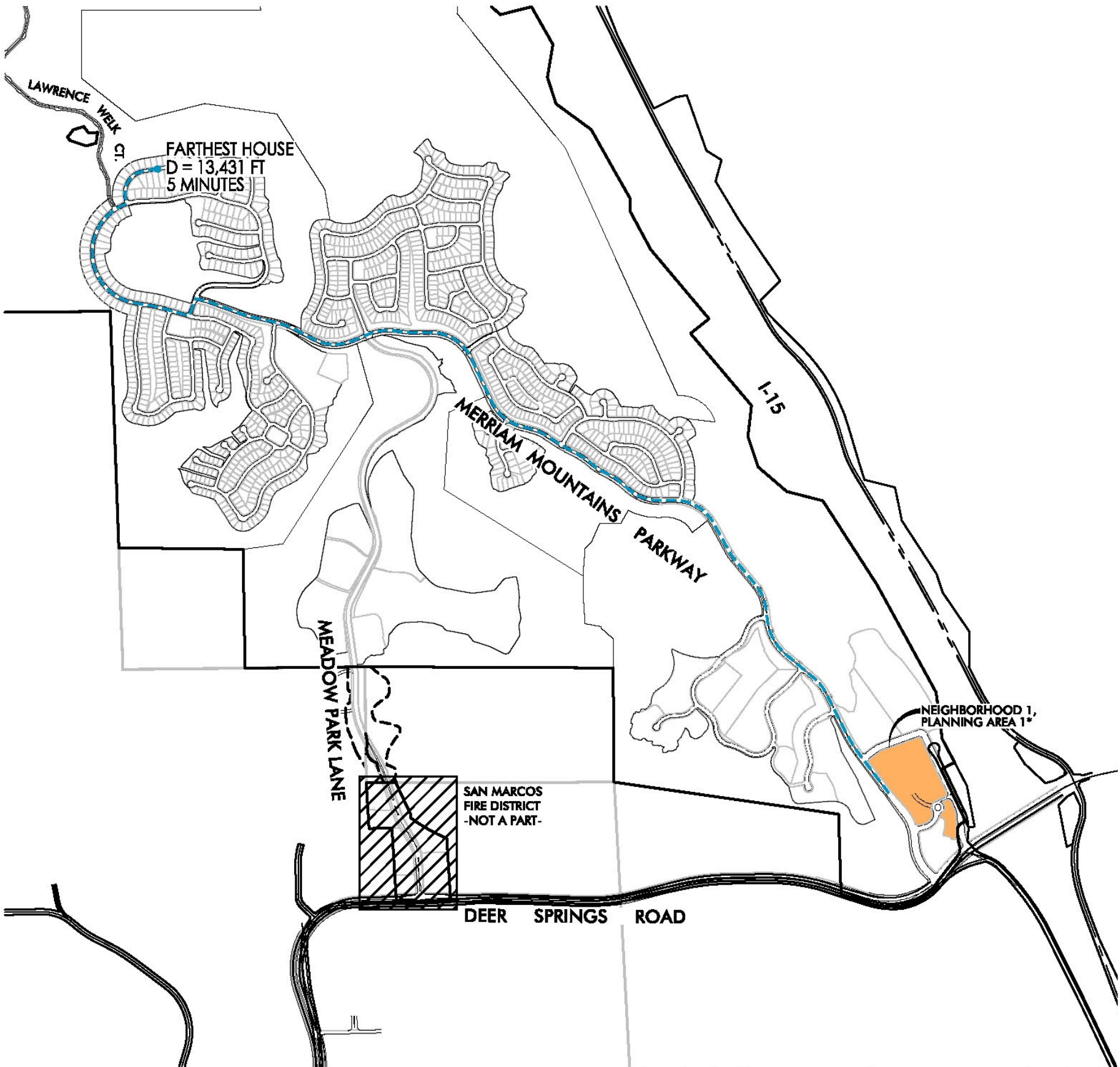
D = ONE WAY DISTANCE (MILES)

5 MINUTE RESPONSE TIME

5 MINUTES = 0.65 + (60/35)D

5 MINUTES = 0.65 + 1.71D

D = 2.54 MILES =13,431 FT



* THE SPECIFIC PLAN IDENTIFIES A FUTURE FIRE FIRE STATION TO BE LOCATED WITHIN NEIGHBORHOOD 1, PLANNING AREA 1 (COMMERCIAL AREA). FIRE STATIONS ARE A PERMITTED USE WITHIN THE COMMERCIAL AREA PER SECTIONS 2363(A) AND (B) OF THE COUNTY ZONING ORDINANCE, WHICH IDENTIFIES A FIRE STATION AS A CIVIC USE.

SOURCE: FUSCOE, February 2009

Travel Time Analysis–Neighborhood 1 through 5
(excluding the Estate Lots and Neighborhood 2, Planning Area 3)

MERRIAM MOUNTAINS
SPECIFIC PLAN EIR

FIGURE
4.1-4



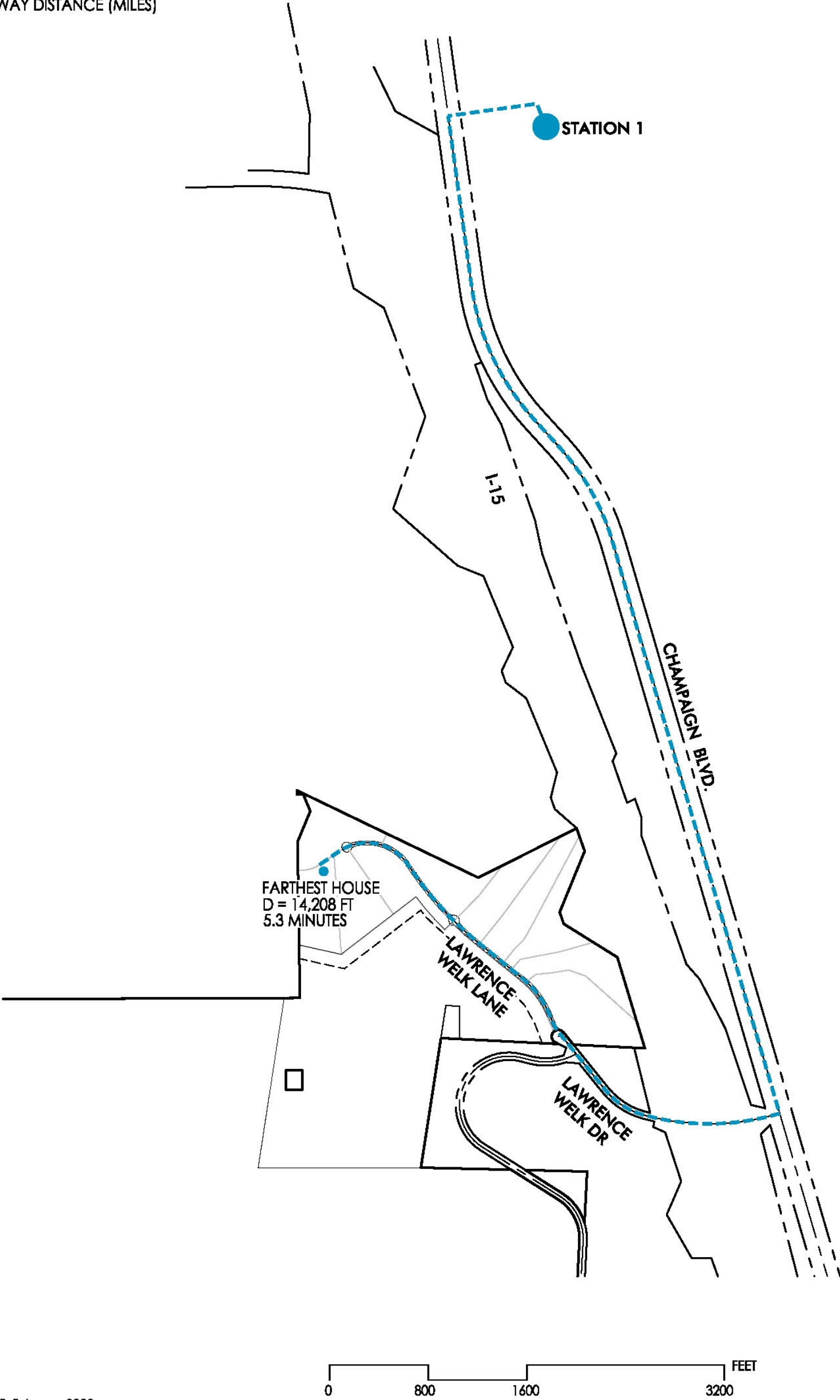
NFPA 1142 METHOD

RESPONSE TIME = $T = 0.65 + XD$

WHERE:

- 0.65 = ACCELERATION / DECELERATION FACTOR
- X = AVERAGE SPEED FACTOR = $60 / \text{AVERAGE SPEED (MPH)}$
- D = ONE WAY DISTANCE (MILES)

20 MINUTE RESPONSE TIME
 $20 \text{ MINUTES} = 0.65 + (60/35)D$
 $20 \text{ MINUTES} = 0.65 + 1.71D$
 $D = 11.32 \text{ MILES} = 59,770 \text{ FT}$



SOURCE: FUSCOE, February 2009

Travel Time Analysis–Estate Lots



NFPA 1142 METHOD

RESPONSE TIME = T = 0.65 + XD

WHERE:

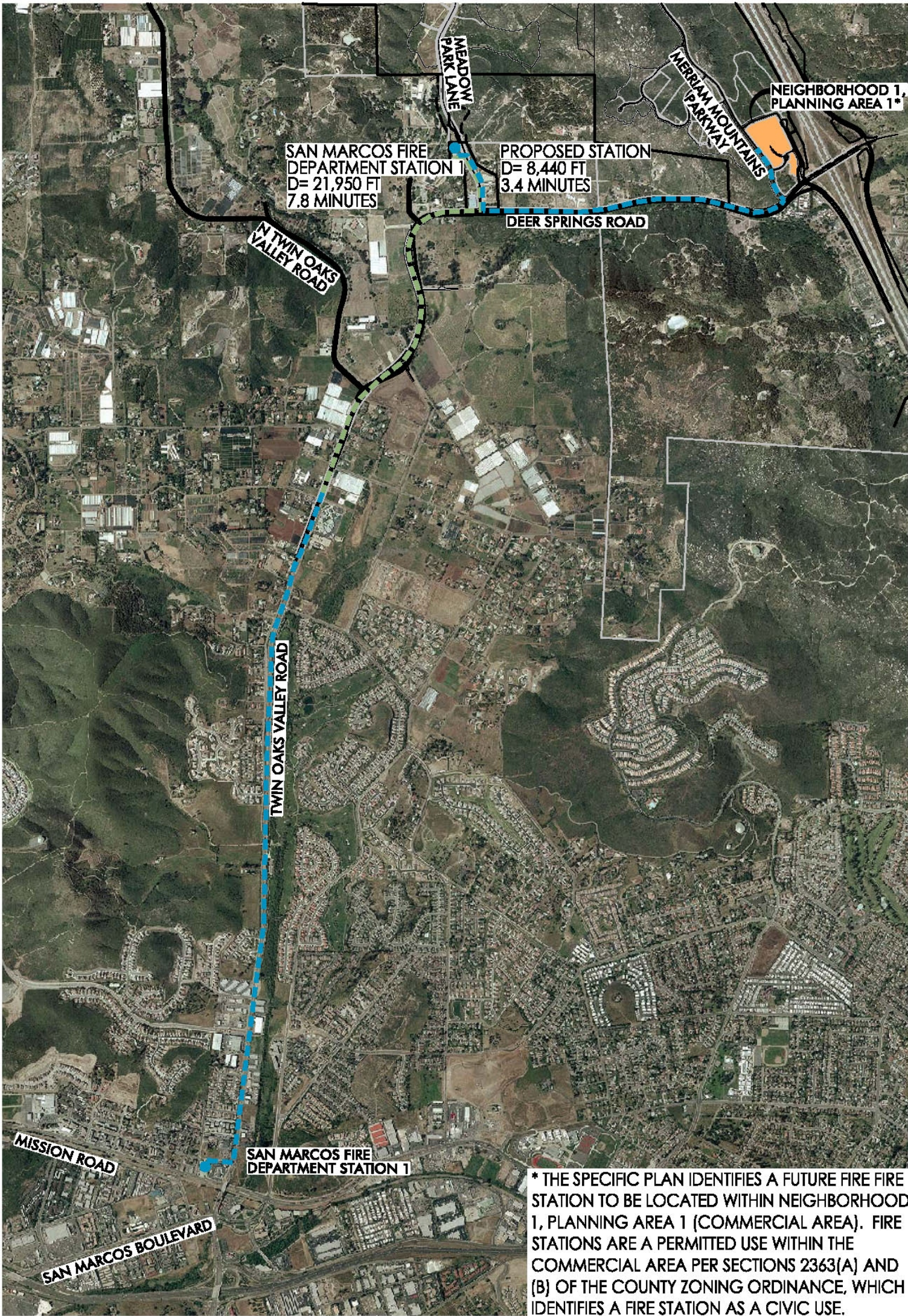
- 0.65 = ACCELERATION / DECELERATION FACTOR
- X = AVERAGE SPEED FACTOR = 60 / AVERAGE SPEED (MPH)
- D = ONE WAY DISTANCE (MILES)

5 MINUTE RESPONSE TIME

5 MINUTES = 0.65 + (60/35)D
5 MINUTES = 0.65 + 1.71D
D = 2.54 MILES =13,431 FT

RESPONSE TIME KEY

- RESPONSE TIME < 5.0 MINUTES
- RESPONSE TIME > 5.0 MINUTES



SOURCE: FUSCOE, February 2009

Travel Time Analysis–Neighborhood 2, Planning Area 3

FIGURE 4.1-6

